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THE UNIVERSITY OF CHICAGO

KANT'S PRIZE ESSAY ON NATURAL THEOLOGY AND MORALS: TRANSLATION WITH INTRODUCTION

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PREFACE

A sincere, even though faulty, attempt to make one of the minor works of Immanuel Kant more accessible to the English-speaking world needs no apology. The enormous quickening of interest in Kant, which resulted from the world-wide celebration of the bi-centenary of his birth, would alone make such an apology superfluous. But even before these celebrations, the influence of Kant's thought upon the thought of our day was generally recognized. The extent to which contemporary systems are indebted to him is admirably set forth by Professor Edward L. Schaub in his paper "The Legacy of Kant."[1]

Translations of the minor essays are needed; for, while we now have admirable translations of the major works, such as the Critique of Pure Reason, the Critique of Practical Reason, and the Critique of Judgment, we are still lacking in English versions of some of the earlier works. Translations of these are limited to Hastie's work on Kant's Cosmogony, Abbot's on Kant's Introduction to Logic, Goerwitz's Dreams of a Spirit Seer and Eckoff's translation of the Inaugural Dissertation. A translation of all the earlier works was made in 1789 by A. M. Willich, but this is no longer accessible except as a rare book. I have never seen a copy.

Kant's Prize Essay: "Investigation Concerning the Distinctness of Concepts of Natural Theology and Morals" is not the most important, though it might be said to be one of the most important, of

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1. Published in the memorial volume: Immanuel Kant. Papers Read at Northwestern University on the Bicentenary of Kant's Birth. Chicago - London. The Open Court Publishing Company, 1925.

his earlier, pre-critical works. I have chosen it for translation solely because I happened to be interested in the problem it undertakes to solve.

This interest is the direct outgrowth of my studies in Kant under Professor Edwin A. Burtt of the University of Chicago and the celebration of the bi-centenary of Kant's birth at the Northwestern University in which two of my former teachers participated: Professor Martin Schütze of the Department of Germanics, University of Chicago, who read a paper on "The Cultural Environment of the Philosophy of Kant," and Professor Joseph A. Leighton, of the Department of Philosophy, Ohio State University, who read a paper the same evening on "Kant, the Seminal Thinker." To these men, but particularly to Professor Schütze, under whose direction this task has been carried out, I owe my interest in Kant and whatever of equipment I may have brought to the task.

In my discussion of the earlier works of Kant, I have leaned heavily on Kuno Fischer and Caird. In my analysis of the Prize Essay itself, I have had, of course, the valuable criticism of Professor Schütze and that of my friend and colleague, Mr. M. S. Everett.

For assistance in preparing the manuscript, I am indebted to my friend, Miss Drucilla Schroeder and to my friend and colleague, Mr. Ernest L. Sabine.

E. W. B.

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CHAPTER I

OCCASION OF THE ESSAY

In the year 1761 the Royal Prussian Academy of Sciences at Berlin (or the Academy of Sciences and Literature, as it was then known) announced, as the subject for the prize essay of 1763, the question, "Are the metaphysical sciences capable of the same evidence as the mathematical sciences?" It was the privilege of the Philosophical Class[1] to put the question for that year, and, in doing so, it chose with customary aptness a topic which had occupied the minds of leading philosophers for some time. Despite the timeliness and importance of the subject, only three contestants submitted essays for the prize. These, however, were men of the highest calibre: Mendelssohn, the brilliant Jewish follower of Leibnis and Wolff, Kant who ranked next to Mendelssohn as a leader in philosophy at the time, and Thomas Abbt, the youthful but talented admirer of both Lessing and Mendelssohn.

Mendelssohn won the prize with an essay, entitled, "Essay Concerning the Evidence in Metaphysical Sciences".[2] He was the best known of the contestants. The Berliner Zeitung, in announcing the prize award in its issue of June 4, 1763, said: "Thursday the Academy held its open session. The prize was won by the local Jew, Moses Mendelssohn, who is already sufficiently known through his published works." Kant received only the "Accesit," or second place.

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1. There were at the time four Divisions or "Classes" of the Academy: Mathematics, Natural Science, Belle-Lettres, and Philosophy.
2. "Abhandlung über die Evidenz in metaphysischen Wissenschaften." Cf. Mendelssohn's Gesammelte Schriften," Nach den Original drucken und Handschriften herausgegeben von Prof. Dr. G. B. Mendelssohn, Leipzig, 1843, Vol. 2, p. 1.

Mendelssohn had had previous dealings with the Academy;[1] but the announcement of the "Accesit" of 1763 was the first occasion on which Kant's name was linked with that of the celebrated Berlin body.

The fundamental character of the question proposed had challenged the attention of the Jewish philosopher as early as 1762. He worked on his answer to it while on his honeymoon during the summer of that year. Under date of July 4, 1762, he wrote to his friend Abbt: "If I had not been interrupted by household duties, my essay might perhaps have been finished and translated into another tongue by this time." Abbt regarded Mendelssohn as one of his closest friends, and proposed that Mendelssohn and he exchange manuscripts before submitting them to the Academy. This they did.

In his answer to the Academy's question, Mendelssohn set up the thesis that "metaphysical truths are capable of the same certainty but not the same comprehensibility as geometric truths." Analysis, he said, is for the understanding what a magnifying mirror is for the face -- it merely enlarges and brings to clear view what was before hidden. This, according to Mendelssohn, is the method of mathematics, and on this point he is diametrically opposed to Kant. In support of his contention he refers to Geometry which, he says,

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1. He had previously written on subjects proposed by the Academy, notably on the question for the prize essay of 1755, concerning Pope's "Whatever is, is right." Cf. Chapter II, p. of this essay. He was befriended by Sulzer, head of the Philosophical Class, and in 1771 was even elected to membership. Frederick the Great protested, however, and struck his name off the list; not because Mendelssohn was a Jew, but because he had dared to attack Frederick's French proteges in the Academy.

deduces all of its truths from the one fundamental concept of space. Mendelssohn's essay, therefore, was a strictly rationalistic, a Wolffian answer to the Academy's question.

Kant, as we shall see, was already much absorbed in that very question which the Academy raised in announcing the subject for the prize of 1763. But he was too much absorbed to think at first of competing and it is known that it was very late when he undertook an answer. Both the internal and external evidence point to the fact that he wrote hurriedly, and he seems to be conscious of some inadequacy when in the latter part of his essay he says:[1] "Perhaps the example I have given is not sufficiently clear and convincing." Later, June 28, 1763, in his letter to Formey, Secretary of the Academy, he writes, referring to the "Accesit":

> "I am all the more sensitive to this favorable judgment, because carefulness of rhetorical dress and ornamentation could have had no great part in it, and because a somewhat too prolonged delay scarcely left me sufficient time to set forth, without a special arrangement, the most important arguments on a point which for several years has engaged my reflection, and is now, I am flattered to believe, very near a solution at my hands."[2]

This feeling, that the essay as submitted left something to be desired, was responsible for Kant's inquiry,[3] in the same letter, as to whether, in case the essay should be printed, a supplement of considerable additions would be unwelcome. Formey, with customary

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1. Cf. Gesammelte Schriften Kants, (Royal Prussian Acad. Ed.), II, p. 300.
2. Ibid., Vol. X, (Vol. I. of the Briefwechsel), p. 39.
3. Ibid.

politeness, replied that the essay would be printed and that there would be ample time to write such a supplement as Kant had in mind.[1] Both Mendelssohn's essay and Kant's were printed by the Academy and given a place in its Volume des Pièces, as Formey promised.

That Mendelssohn rather than Kant should have won the prize is rather baffling, for there can be no doubt in my mind of any present-day critic that Kant's essay was much the more thorough and penetrating. However, it must not be forgotten that his essay was also much the less well-written and that it took an advanced point of view which ran counter to the philosophy adhered to by at least the Philosophical Class of the Academy. Mendelssohn's essay, on the other hand, was written in his customarily lucid and brilliant style and answered the question in terms of the Leibnis-Wolffian philosophy. It would, therefore, be only fair to assume that Sulzer, the Leibnisian head of the Philosophical Class, exercised his best judgment, and acted in all sincerity, when he decided in favor of Mendelssohn's Leibnisian answer.

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1. Gesammelte Schriften Kants, op. cit., Vol. X, p. 40. "Ainsi, Monsieur, vous avez le temps de faire un Supplément à votre Ecrit; et quand il sera fait; si vous voulez me le faire parvenir j'aurai soin qu'il soit mis à Sa place dans le Volume des Pièces."

CHAPTER II

THE TREND OF PHILOSOPHICAL THOUGHT AT THE TIME

The dominant philosophy on the continent, in the first half of the eighteenth century, was dogmatic rationalism. It furnished the metaphysical foundations of the so-called Enlightenment[1] in Germany, in so far as that movement had any; and, by the middle of the century, had permeated every field of thought. It became, in fact, the very foundation of the theology, the political theory, the art and literature of the times.

The particular form of rationalism in vogue at the time Kant began his work, namely Wolffianism, was the culmination of that series of rationalistic systems whose chief representatives were Descartes, Spinoza, Leibnis and Wolff. They were alike in the belief that the deductive or formal thinking processes are the surest and most immediate sources of certainty. Through "clear thinking" alone, according to the rationalists, we may know things as they are, apart from our sensibility. This belief received strong support from the great strides made by seventeenth century mathematics, which, with its flawless method, seemed to hold the key to universally valid truths. To all appearances, human reason, by proceeding methodically,

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1. Professor Schütze refers to this as a "nondescript state of mind called the Aufklärung. "This name," he says, "designated the superficial eclecticism of the more expressive ones among the popular minds, who gathered from all the different systems the more obvious ideas which coincided with their natural inclinations." They took over the more obvious forms of the syllogism, the ready self-confidence of sensesism, the agreeable reliance on one's feelings, impulses and "intuitions," as immediate sources of truth, and on faith as the arbiter of any remaining perplexities" (Martin Schütze: "The Fundamental Ideas in Herder's Thought," No. VI, Modern Philology, Nov. 1923, Vol. XXI, p. 125.)

mathematically, logically, could arrive at certain knowledge; hence the dogma, that "whatever is correctly deduced, clearly apprehended and non-contradictory for thought, must agree with reality."[1]

While Spinoza had given rationalism its most rigorously logical treatment, it was the rationalism of Leibniz, worked over by Wolff, which dominated the first half of the eighteenth century. Leibniz believed that he discerned two kinds of truths; eternal (or formal) truths (vérités éternelles) and empirical truths (vérités de fait). Formal truths are clear and distinct according to the law of contradiction, but the empirical truths must be accounted for by the law of sufficient reason. These, held Leibniz, are the two first principles of knowledge. The law of sufficient reason explains that nothing can happen without a cause or determining reason, from which we may know why a thing exists just so and not otherwise. Hence this principle alone is the source of accidental truths taken from experience.

Wolff tried to restore the primacy of the law of contradiction by showing how the law of sufficient reason is reducible to it. That which happens, the effect, is assumed in the concept of the subject, as cause. And if this is true, then all rational science rests upon the law of contradiction, a formal principle. Empirical science can only verify the hypothesis set up by the rationalistic method. As Professor Schutze says:

> "By combining the rationalistic method of the syllogism with Leibniz's principle of the

1. Boehm, Die Vorkritischen Schriften Kants, p. 26.

> absolute primacy of the monad in relation to reality, he (Wolff) thought he had discovered the theoretic way out of the dilemma of the relation of absolute reason to empirical reality. If, according to Leibniz, the monad contains the essence of the universe within it, then its mind must partake of this universe and consequently, its mental processes, if clear and distinct, i. e. in agreement with the laws of the syllogism, must lead directly to reality."[1]

Toward the middle of the century, various movements or forces began to reduce the prestige of the Leibniz - Wolffian philosophy. These were all in the nature of protests against "the glib and smug intellectual inferiority" which rationalism produced and its failure to do justice to the feeling aspect of human nature. The most comprehensive and influential of these movements was that commonly called romanticism.[2] In the contest between reason and feeling, romanticism leaned toward the feeling side and took as its slogan "Gefühlist alles." It accepted Locke's theory of the primacy of sense perception as the source of the contents of the mind and the theories of Hartley and Priestly, according to which mind is the product of the nervous mechanism. Other conceptions which inspired the movement were contributed by Shaftesbury, Hamann, Rousseau, and the German Pietists. "This vast and complex variety of conceptions was unified and harmonized by Herder,"[3] in whom the whole movement found its most adequate expression. However, the full force of this

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1. Schutze, op. cit., p. 125.
2. Professor Schütze calls it Vitalistic Naturalism, which seems to me more accurately to describe it; but it is perhaps best to use the traditional term, as it is too well grounded to be replaced.
3. Cf. Martin Schütze, "The Cultural Environment of the Philosophy of Kant," (Papers read at Northwestern University on the Bicentenary of Kant's birth), p. 51.

movement was not felt for a decade after the period which concerns us here, namely, the period from 1747 to 1763.

As a phase of the romantic movement, the empirical mode of thought which emanated from England had a special part in counteracting German rationalism. Locke's influence was beginning to be felt in Germany, and his empirical epistemology had already sowed the seeds of dissatisfaction among German thinkers and those French thinkers who dominated the Berlin Academy. Humean skepticism, however, did not assert itself later, and, as it is reasonably certain that Kant himself had not been influenced by Hume at the time of the Prise Essay, there is no need to dwell upon that influence here.

The most potent, perhaps, of the forces which tended to undermine the rationalistic philosophy was the influence of the Newtonian principles which had made a strong impression upon certain German thinkers, particularly Knutzen, Kant's teacher in the mathematical sciences at Konigsberg. Knutzen had inherited the Wolffian traditions in metaphysics, but also openly avowed Newtonianism. He made a rather unsuccessful attempt to reconcile the two; and he inspired his pupil Kant to more able, yet equally ineffectual, efforts in the same direction.

The same conflict caused a division of opinion among the Academicians at Berlin and led to serious disputes in which the Newtonians usually came out victorious. These contests, in fact, contributed, in a large measure, to the decline of the Leibniz-

Wolffian philosophy in Germany. In 1747, the question announced for the Academy prize, called for an exposition and a criticism of the monad theory. Members of the Academy were sharply divided on the question. Maupertuis, the French President, and Euler, the distinguished mathematician, both took sides with the English empiricists, and regarded the monad doctrine as fruitless speculation. Wolff, seeing his primacy threatened, sought desperately to swing Maupertuis to his side. A series of anonymous brochures followed which carried the dispute to a point of such high tension that decision as to the award was not left to the Philosophical Class, whose privilege it had been to put the question. A commission, made up of representatives of all four of the Classes, gave the prize to an opponent of the monad theory. Euler, one of the anti-Leibnizians, later conceded that the decision was partisan and that the prize should have been shared by at least another contestant who stood for a modified form of Leibnizianism. But the Newtonians believed they were fighting for exact science as opposed to fantastic speculation, and such a contest permitted of no compromise.[1]

In 1751, the Leibnizians were more fortunate, for the question in that year, by implication at least, called for a criticism of Leibniz determinism; and the prize was won by the mathematician Kaestner, who was a pupil of Wolff's.

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1. Harnack, Geschichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin, One volume ed., p. 309.

In 1755, however, the enemies of the Leibnizian philosophy made a more insidious and dangerous attack. In spite of the opposition of Sulzer, the head of the Philosophical Class, the question as finally put, required a criticism of Pope's dictum, "Whatever is, is right."[1] This was plainly a slap at the Leibnizian optimism as expressed in the doctrine of the "best possible of all worlds." A bitter contest again ensued. But the prize was finally bestowed upon an obscure anti-Leibnizian, who, in a very inadequate way, sought to refute Pope's, and through his, Leibniz' optimism. The only real defense of Leibniz appeared in an anonymously published essay on, Pope a Metaphysician, the joint authors of which were Mendelssohn and Lessing. But this essay was never submitted to the Academy, for it took that body severely to task for even proposing the question.

Whatever the merits of the controversies, one thing is certain: that, so far as the Academy as a whole was concerned, the Newtonians were in the saddle, and their prestige was not to be despised.

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1. "On demande l'examen du système de Pope, contenu dans la proposition: Tout est bien. Il s'agit: de déterminer le vrai sens de cette proposition, conformément a l'hypothèse de son auteur. De la comparer avec le système de l'optimisme, ou du choix du meilleur, pour en marquer exactement les rapports et les différences. Enfin d'alléguer les raisons qu'on croira les plus propres à établir ou à detruire ce système." Harnack, op. cit., p. 310.

CHAPTER III

KANT'S EARLIER WRITINGS

The division of Kant's activity into two periods, the Critical and the Pre-critical, is general. Paulsen makes a further division of the Pre-critical period. The writings of the fifties, he points out, are mainly characterised by dogmatic rationalism, by adherence to Newton in his cosmology, and to Leibniz and Wolff in their metaphysics and epistemology. But, beginning with the essay on The Only Possible Ground for a Demonstration of the Existence of God (1763), so Paulsen holds, there is a noticeable slackening of interest in natural science, a greater degree of emancipation from the current philosophy, and a heavier leaning toward the empirical and skeptical mode of thought which emanated from England.

This distinction between the epoch of the fifties and that of the early sixties is, in the main, valid; but we must not make the mistake of assuming any very sharp break between the two periods.

In tracing the development of Kant's thought through the first period, down to the time of the prize-essay, On Natural Theology and Morals, it is helpful to bear in mind the nature of his education at Konigsberg. Particularly Knutzen, his instructor in mathematical and physical science, did much to determine the course of Kant's thinking. Knutzen was one of the earliest Newtonians in Germany and he inspired Kant to the independent study of the Principia and the

adoption of Newton's natural philosophy. But even Knutsen had a philosophical background which was Wolffian, and it remained for his pupil, Kant, to show, after vain efforts at reconciliation, that Wolffian metaphysics and Newtonian natural philosophy could not live in the same house in concord and amity.

While I have reviewed here the more important of Kant's early writings in considerable detail, I have done this no further than seemed necessary to bring out the gradual unfolding of his metaphysical method. Kant's dissatisfaction with the formal, analytical method of the rationalists increases from step to step as he advances. Particularly the failure of that method to furnish a satisfactory ground for the existence of God occupied his attention. The Prize Essay of 1763 is his last attempt to ground the existence of God with certainty through pure reason. For this reason I have followed out rather fully the arguments for the existence of God wherever they occur and whatever the form they take.

Essay on Living Forces

The position reached by Kant at the close of his academic studies is set forth in his student essay of 1746, "Thoughts on the True Estimate of Living Forces, and a Consideration of the Arguments of Leibnis and Others in the Mechanical Controversy, with Preliminary Remarks on the Force of Bodies Generally."[1] This essay was Kant's

1. Gedanken von der wahren Schätzung der lebendigen Kräfte und Beurtheilung der Beweise, deren sich Herr von Leibnis und andere Mechaniker in dieser Streitsache bedient haben, nebst einigen vorhergehenden Betrachtungen, welche die Kraft der Körper überhaupt betreffen, durch Immanuel Kant. Kant, op. cit., I, 1.

contribution to a debate, which, as he himself says, had caused a great dispute among the geometricians of Europe.

The question was whether the "force" of a body in motion is to be measured as Leibnis and others had said, by the product of the mass and the square of the velocity (mv^2), or as Descartes, Euler, and others had contended, by the product of the mass and the simple velocity (mv). Descartes in his Principia Philosophiae (1644), in discussing the laws of motion and the vortex theory had said: "It is wholly rational to assume that God, since in the creation of matter He imparted different motions to its parts, and preserves all matter in the same manner and conditions in which He created it, also preserves similarly in it the same quantity of motion."[1] The 'force' of a body, Descartes maintained, is also fixed and proportional to the 'quantity' of motion (mv). In 1686, Leibnis, in an essay on "A Short Demonstration of a Remarkable Error of Descartes and others," etc. in the Acta Eruditorum, attacked the Cartesian doctrine showing that, while it happened to hold for machines, it did not give a true statement of the measure of force.[2] It was in this essay that Leibnis introduced the term Vis viva or 'living force' and gave as the formula for this 'force', (mv^2). At the time at which Kant wrote his essay, this view of Leibnis was the prevailing one; but Kant, in his own contribution, deals with all partisans to the controversy except

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1. Descartes, op. cit., vol. II, p. 36.
2. Acta Eruditorum, 1695, April, pp. 148, 149.

D'Alembert, whose Traite de dynamique, 1743, he did not know.

In stating his own position he divides all motions into two classes: (1) those supposed to persist in the body to which they are communicated, until opposed by some obstacle; (2) those which cease, although opposed by nothing, as soon as the force which produced them ceases to operate. Leibnis' formula, he says, is right with regard to the first; Descartes' with respect to the second.

Now, if by "force" we mean "a cause proportionate to the quantity of motion," Descartes, of course, is right. If, however, we mean by it "the power of a body in motion to produce a certain effect, for example, to overcome uniform resistance," then Leibnis is right. The debate, in other words, is a purely verbal dispute hinging upon definitions. Modern mechanics does not speak of "living force," although it does speak of kinetic energy. For as D'Alembert showed, in this field the quantities are all unmistakably defined in analytical terms; and "force" is merely an accessory conception which is not essential to an understanding of motions. Only the determination of the phenomena of motion and their laws and the "work" done by "forces" concern mechanics.

The essay, in so far as it reflects the status of Kant's philosophic thought at this time, shows that he is a Leibnisian. He is at pains to show that the conception of "living forces" does more adequate justice to our conception of God and his universe. He is intent upon the possible cause of dynamism and believes that this proceeds from the original properties of Leibniz's "monads." He

voices his own as well as Leibniz' stand, when he says: "Leibniz believed, it is a reflection upon the wisdom of God, to assume that he is obliged repeatedly to renew the motion which he has imparted to his creation."[1] The same belief is reflected in another paragraph where he says that the power and wisdom of God are vindicated by the fact that a body may receive a real motion through the work done on it by a body at rest.[2]

Even as early as this essay, Kant manifests the skepticism with regard to metaphysics which gradually led him away from Wolffian rationalism and later brought about his own "Copernican Revolution." He says: "Our Metaphysics is, like many other sciences, only on the threshhold of real knowledge; God knows when we shall see her cross it."[3] His whole life was an effort to lead the halting, groping damsel over the threshhold; and, long before he had finished his work, he believed he had done her this service with finality and finesse.

Universal Natural History of the Heavens

The influence of Newton and Knutsen is apparent in the very subjects with which Kant concerned himself during these earlier

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1. Kant, On. cit.I,pp. 48 ff.
2. "Dass ein Körper eine wirkliche Bewegung erhalten konne, auch durch die Wirkung einer Materie, welche in Ruhe ist. Hierauf gründe ich mich." (Kant, On. cit., p. 62.)
   "So rettet sich hier die Macht und Weishiet Gottes schon selber." (Ibid., p. 59.)
3. Ibid., p. 30.

years. His next published work, for example, was a Consideration of the Question: Whether the Earth since its Origin has Undergone any Alteration of its Axial Rotation.[1]

The question had been raised by the Academy at Berlin, which, as we have seen, was busy throughout these years, in working out the implications of Newtonian physics, especially in the field of astro-physics. Kant sought to furnish the metaphysical underpinning for the Newtonian natural philosophy in his next published work: Universal Natural History and Theory of the Heavens, (1755).[2]

This, also, was prompted by the Academy's question of the previous year, and is avowedly an outgrowth of his earlier work, Whether the Earth Since its Origin has Undergone any Alteration of its Axial Rotation. At the conclusion of that essay, he had promised shortly a Cosmogony, or an Attempt to deduce from the Laws of the Notion of Matter in Accordance with Newton's Theory, the Origin of Universe, the Formation of the Heavenly Bodies and the Causes of their Movements. But when the promised essay was published, it appeared

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1. It appeared in the Königsberg Wochentliche Nachrichten in 1754, under the following title: Untersuchung der Frage ob die Erde in in ihrer Umdrehung um die Achse, wodurch sie die Abwechselung des Tages und der Nacht vorbringt, einige Veränderung seit den ersten Zeiten ihres Ursprungs erlitten habe und woraus man sich ihrer versichern könne, welche von der Königl. Akademie der Wissenschaften zu Berlin zum Preise für das jetztlaufende Jahr aufgegeben worden. (Op. cit., I, 183.)

2. Allgemeine Naturgeschichte und Theorie des Himmels oder Versuch von der Verfassung und dem mechanischen Ursprunge des ganzen Weltgebäudes, nach Newtonischen Grundsätzen abgehandelt. (Op. cit., I, 215.)
   For an English translation, see Hastie: Kant's Cosmogony.

under the title mentioned in the footnote (p.18) In it, Kant seeks to explain the mechanical origin of the whole world structure, a task which Newton had pronounced impossible, as he could nowhere find a material cause which could adequately explain the courses of the planets. Kant, however, not so readily daunted as Newton,[1] does not invoke the hand of God to explain the organization of the universe. Given matter in chaotic distribution throughout space, he offers a mechanical explanation for the organization into planetary systems, based entirely upon the inherent qualities or power of the particles of matter themselves; namely, the qualities of attraction and repulsion. With both these forces inherent in matter itself, we have an adequate mechanical explanation of the "enduring life of nature." Kant shows in detail how the solar system was constituted; and argues from analogy that all space must contain similar systems, which are in process of an endless development.

But Kant does not escape the question: What is the origin of matter itself? nor does he seek to escape it.[2] In asking the question, he distinguishes between act of creation and natural history of creation. Although he agrees with the ancient atomists,[3] when he

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1. "His (Newton's) disciple went far beyond the master, to show that one law rules throughout the entire universe, visible and invisible. In particular, he sought to detect simple forces of nature where Newton had seen 'the immediate hand of God.'" (Wenley, Kant and His Philosophical Revolution, p. 113.)
2. A more adequate answer is attempted in his so-called Physical Monadology. (Cf. p. of this essay.)
3. "I will therefore not deny that the theory of Lucretius, or his predecessors, Epicurus, Leucippus and Democritus, has much resemblance with mine. I assume, like these philosophers, that the first state of nature consisted in a universal diffusion of the primitive matter of all the bodies in space or of the atoms of matter, as these philosophers have called them." (Hastie, op. cit., p. 24.)

seeks to explain the origin of the world through the mechanical laws of motion inherent in an elementary "matter;" he does not agree with them in their atheism, since "matter" and its properties of attraction and repulsion must themselves be accounted for. Because the world has developed itself through the inherent properties of matter itself, say the atheists, nature must be self-sufficient and God unnecessary. But Kant concludes the opposite.[1] Because the forces inherent in matter act in accordance with laws, "because the irrational cannot be the cause of the rational, because the chaos becomes a cosmos, the real cause of the world must be, not matter, but God."[2] In Kant's own words, "There is a God, just because Nature, even in chaos, cannot proceed otherwise than in an orderly way and according to law.[3]

Kant also made much of the evidences of teleology in his cosmogony. The self-sufficiency of Nature was, indeed, for him evidence that the world was neither under the domination of an arbitrary despot nor in the clutches of blind chance. He therefore clung to the teleological argument for God, "not in spite of his cosmogony but because of it."[4]

But despite Kant's insistence upon the existence of God, his cosmogony contains a threat to the importance of God, for it leaves

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1. "Notwithstanding the similarity indicated, there yet remains an essential difference between the ancient cosmogony and that which I present, so that the very opposite consequences are to be drawn from mine." (Hastie, op. cit., p. 26.)
2. Kuno Fischer, Gesch. d. neueren Phil., 3-4, p. 149.
3. Hastie, op. cit., p. 26.
4. Fischer, op. cit., p. 150.

him no present active role in the universe. God tends to become merely the author of the initial act of creation.

More germane to the purpose of this essay, is Kant's method of procedure and his few reflections upon the certainty of our knowledge. Starting with a single assumption, particles of matter endowed with properties of attraction and repulsion, he builds up an explanation of the entire universe on a mechanical basis. For the original assumption, he, of course, could not claim absolute certainty, but for the inferences from it, assuming it to be valid, he felt justified in claiming a fair degree of credibility.

> "It seems to me that we can here say with intelligent certainty and without audacity: 'Give me matter, and I will construct a world out of it, i. e., give me matter and I will show you how a world shall arise out of it. For if we have matter existing endowed with an essential force of attraction, it is not difficult to determine those causes which may have contributed to the arrangement of the system of the world as a whole.'"1

But, in building up his "world as a whole," Kant was forced to have recourse to analogy, which cannot furnish certainty. He admits this when he says:

> "After having resolved the world into the simplest chaos I have applied no other forces than those of attraction and repulsion to the evolution of the great order of nature: two forces which are both equally certain, equally simple, and, at the same time, equally original and universal. They are both borrowed from the Natural Philosophy of Newton."2

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1. Hastie, op. cit., p. 29.
2. Ibid., p. 35.

On the whole, his service to metaphysics in this work consists in his assumption that all physical relations can be referred to causal connections which must be sought out as Newton sought them out, and made, as far as possible, to furnish the explanation of things. The result of such procedure is to emancipate science from the weakness of an overhasty resort to the "God hypothesis," and to free metaphysics of the burden of explanations which more properly belong to physical science.

The New Exposition of the First Principles of Metaphysical Knowledge

Kant's first essay of a purely metaphysical character was one of three[1] Latin dissertations submitted as part of the requirement for a professorship at Konigsberg: New Exposition of the First Principles of Metaphysical Knowledge. In it he seeks to save himself from undesirable consequences of his earlier position by making certain modifications in Leibnis-Wolffian rationalism. The New Exposition consists of three parts: the first deals with the principle of contradiction, the second with the principle of causation, and the third with the two principles which Kant derives from these: succession and co-existence. By investigation of these principles,

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1. The other two were: "Meditationum quarundam de igne succincta delineatio" and "Metaphysicae cum geometria in philosophia naturalia, cuius specimen I. continet monadologiam physicam." Only the latter is germane to the purpose of this essay.

Kant hoped to bring his cosmogony into harmony with his theory of knowledge; to harmonise the Newtonian natural philosophy with the Leibnis-Wolffian metaphysics.

It is only in this treatment of the principle of causation or sufficient reason that he advances beyond the traditional conceptions. He objects to the term ratio sufficiens, as Crusius uses it, on the ground that we can never know when a cause is an adequate one. On the other hand, he says, a judgment can be accepted as true when its predicate is so formulated as to exclude all other predicates. Such a predicate actually determines the subject, so Kant uses the term ratio determinans. But the ratio determinans may be antecedenter when it is the cause of a thing being thus and otherwise; or it may be consequenter, as when it is the cause of our knowing that a thing is thus and otherwise. The former is the ratio cur, the latter the ratio quod.

Here Kant makes the important distinction between real or empirical and conceptual or logical causality, between the cause of things and the cause of our knowledge of things. Wolff had defined the concept of cause as that by which we know that a thing is rather than is not. Kant insists that the cause of an existence must necessarily precede it, if it is to be a real cause (ratio essendi vel fiendi). If this is so, then no existence can have its own cause within itself, as this would lead to the absurdity of our saying that the thing exists before it exists. But, if the cause of the thing is

outside of it, so that it is contingent upon the existence of something else, then its existence is accidental and not necessary. A Necessary Being, an Absolute, could not be contingent upon an antecedent cause, a cause outside of itself. Such a Being can have no Realgrund (ratio cur); it can have only an Erkenntnis-Grund (ratio quod.)

Here, as in his earlier writings, Kant shows he has taken over the conception of God as the ens realissimum of the traditional philosophy. But he is dissatisfied with the traditional method of arriving at the necessary existence of this Most Real Being. From this point on in his thought, his course leads him farther and farther away from the traditional proofs of God until, in the Critique of Pure Reason, he discards them altogether.

Any attempt, maintains Kant, to prove the existence of God from the conception of God, is a confusion of the ratio essendi (ratio cur) and the ratio cognoscendi (ratio quod.) The idea of a Most Real Being does involve existence but only conceptual, not actual existence. There is only one way of proving the existence of God: to prove in the proposition "God exists," that all predicates other than the predicate "exists" are excluded. We have proved that he exists, when we have demonstrated that it is impossible that he should not exist. That Being or Existence is necessary and absolute, whose non-existence is unthinkable or impossible. Remove the impossibility of such an Absolute Being and you remove all possibility - all thinkability.

In other words, Kant rests his proof of the existence of a Necessary or Most Real Being, not upon the conceivability of God but upon the conceivability of things in general, upon possibility as such. This, in essence, is the version of the ontological argument which, in 1763 in his Only Possible Ground for a Demonstration of the Existence of God, he worked out in detail and advanced as the only proof of God through pure reason. The same argument is also followed in the Prize Essay.

The Physical Monadology

The conflict between the Newtonian principles and the philosophy of Leibnis furnished Kant his theme for another of the three Latin dissertations required to qualify him for a professorship at Konigsberg: The Use of Metaphysics associated with Geometry in Natural Philosophy, or, as it is usually known, the Dissertation on the Physical Monadology (1756).

The Newtonian principle of attraction, particularly, seemed to conflict with Leibnis's doctrine of monads; for these monads, both in Leibnis's thought and in Wolff's refinement of it, were conceived of as independent, more or less self-conscious, but closed-in-to-themselves, elements or substances; whereas, the ultimate particles of matter to which, in the light of Newtonian physics, Kant reduced the universe, had the power of attraction and repulsion. Leibnis resorted to the idea of preestablished harmony to account for the organization of

his monad-world, but Kant finds this unnecessary because of the inherent powers of his particles of matter.

A body, he says, is a complex substance, consisting of simple, indivisible substances or monads. A material body has, as its simple elements, the physical "monad." The fundamental concept of Leibnisian metaphysics is the monad; that of geometry is space. The monads are indivisible, but the space of geometry is infinitely divisible. The question now arises: "How can the monads exist in space?"

To answer this, Kant shows that we must invoke the Newtonian conceptions. To occupy space, a thing must have impenetrability.[1] Without the power of repulsion there can be no impenetrability; without impenetrability there can be no extension; and without the power of attraction, which makes possible the mutual delimitation of things, there can be no definite volume. Hence, unless they have both attraction and repulsion, the monads cannot fill space.

But, occupying space, they necessarily, in virtue of the same inherent forces which determine that occupancy, stand in relationship to each other. Thus the organization of the physical monads and the whole universe is accounted for without resorting to the idea of preestablished harmony. Nevertheless, God is necessary, both to account for the inherent capacities of attraction and repulsion and as mediator between the monads.

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1. The same argument is later used in the Prize Essay, cf. p.

I pass over Kant's works of the later fifties, as they are all, with the exception of the Essay on Optimism of 1759, concerned with physics or physical geography. It will suffice here to point out that the Essay on Optimism in no wise advances beyond the position Kant had taken in the New Exposition and the Physical Monadology.

By the year 1762, however, the question of the difference between logical cause and real cause, between conceptual and actual reality and the failure of the analytical method to show how it can be, that "because something is, something else necessarily exists," had aroused Kant to new activity and resulted in a series of four essays dealing with various aspects of metaphysics, but particularly with its method. These essays are: The False Subtility of the Four Syllogistic Figures, An Attempt to introduce the concept of Negative Quantity into Philosophy, The Only Possible Ground for a Demonstration of the Existence of God, and the Prize Essay, Investigation concerning the Distinctness of the Fundamental Concepts of Natural Theology and Morals. There has been considerable dispute as to the exact order in which they were written, but this is a matter of small importance, as it is reasonably certain that they were all written in 1762.[1] At any rate, taken together they represent a consistent whole,

1. I have followed the order of Kuno Fischer. Geschichte der neueren Philosophie, Vol. III., "Immanuel Kant und seine Lehre, dritte neu bearbeite Auflag.," Heidelberg, 1889, p. 221. The internal evidence he adduces seems to me especially convincing. The only doubtful point in the sequence he has set up, seems to me to be the position of the essay on "Negative Quantity." Paulsen may be right in placing this last in the series.

in which the individual essays simply deal with related aspects of one general problem.

The False Subtility of the Four Syllogistic Figures

Having reduced the processes of thought to analysis in the New Exposition, Kant, in his essay of The False Subtility of the Four Syllogistic Figures, dwells especially on the opposition between thought and reality and the impossibility of developing all truth out of one fundamental principle; namely, the law of identity and contradiction.

He points out that the four syllogistic figures are based upon two principles only: Nota notae est nota rei ipsius (The mark of an essential attribute is a mark of the thing itself), and Repugnans notae repugnat rei ipsi (To deny an essential attribute is to deny the thing itself.) These are the rules for affirmative and negative ratiocinations, respectively; but they are themselves only corollaries of the principles of identity and contradiction, which constitutes the rules of affirmative and negative judgments.

Now a distinct concept cannot be had without a judgment, and a complete concept cannot be had without a ratiocination. But the capacity to make judgments and the capacity to make ratiocinations, or the power to cognize and the power to reason, do not involve different faculties of the mind, ("Since the same capacity which recognizes something immediately as an attribute in a thing, is also employed to recognize in this attribute another attribute, and

thus to conceive the thing by means of a remote attribute); thus also it is evident that Understanding and Reason, that is, the power of cognising distinctly, and the power of forming ratiocinations, are not different faculties. Both possess the power of judging; but, when we judge mediately, we reason."[1]

In the four syllogistic figures, we judge mediately; but Kant shows that all the other figures lead in the final analysis to that order of the terms known as the First Figure.[2] The foundation of all syllogistic reasoning, is, according to Kant, the faculty of judgment. "If a being can judge, it possesses the higher capacity of knowledge."[3] The capacity to judge is something more than the capacity to distinguish. Animals can distinguish, but they cannot judge.[4] So, for example, an ox can distinguish the stable-door from the stable but he cannot make the judgment: "This door belongs to this stable." For that, something more is necessary; namely, the faculty of judgment.

As to the nature of this faculty, Kant says:

> "My present opinion inclines to this, that this faculty or capacity is nothing but the power of making our own ideas the object of our thoughts. This power cannot be derived from any other; it is a fundamental faculty in the proper sense of the word, and, as I hold, can belong to rational beings only. And the whole of the higher faculty of knowledge rests on the same power."[5]

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1. Abbott, Kant's Introd. to Logic, pp. 92-93.
2. Ibid., p. 91.
3. Ibid., p. 93.
4. The same thought is expressed later in the Prize Essay and a very similar example is there given. (Cf. p. of this essay.)
5. Abbott, op. cit., p. 94.

By showing that the processes of the four syllogistic figures are merely analytic, Kant proves the absurdity of trying to develop all knowledge from the principle of contradiction which Wolff had invested with such prestige. By sheer logic we cannot know that anything is the cause of anything else. This idea receives further elaboration in his next essay on An Attempt to Introduce the Conception of Negative Quantity into Philosophy.

An Attempt to Introduce the Concept of Negative Quantity into Philosophy

In his essay on Negative Quantity, Kant undertakes to show how metaphysics may profit by borrowing from the field of mathematics. In his introduction to this essay and in the Prize Essay (which may have been written at about the same time), he decrys the slavish imitation of mathematical method, but he also points out that method can furnish useful concepts. As an example, Kant cites the conception of negative quantity. But in developing this argument for its usefulness, he is chiefly concerned to show that the principle of identity and contradiction, the analytical procedure of formal logic, can never help us to arrive at the "real" cause of things. It can never tell us just how, "because something exists, something else exists also."

There are two kinds of opposition says Kant: logical and real opposition. Logical opposition is that in which something is at the same time affirmed and denied with nothing (nil) as the result.

Real opposition is that in which two predicates of a thing are opposed to each other, but not according to the law of contradiction; hence with something (oppositabile) as a result. Kant deplores the fact that the latter had been over-looked, because he sees in it the possibility of clearing up the delusion which Wolffian rationalism had brought about: namely, that the causes of things can be determined analytically in accordance with the logical principles of contradiction and sufficient reason.

After justifying his distinction between logical and real opposition by citing many examples from physics and psychology, Kant comes to the crucial question, the unanswered question with which he concludes the essay: "How is it, that because something exists, something else exists?"[1] "You may analyse according to the law of contradiction as long as you will," he says, "and you will never find in the conception of the Divine Will an existing world."[2] In other words you can never reason from a real cause to its effect by analysis.

Real causes, says Kant, can never be expressed in formal judgments. They go back ultimately to "simple irreducible concepts, which cannot be further explained."[3]

Only Possible Ground for the Demonstration of the Existence of God

In the New Exposition, Kant had already attacked the traditional

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1. Kant, op. cit., II, p. 202.
2. Ibid.,
3. Ibid., p. 204.

ontological argument for the existence of God, because it presumes to equate conceptual with actual reality. In The Only Possible Ground, he refutes not only the ontological but also the cosmological argument of the rationalist school. The ontological argument fails because it is based on the false assumption that "existence" is one of the predicates of any subject concept, and can be established by mere analysis of what is involved in the subject concept. For, observes Kant, "where in our ordinary manner of speech, existence appears as a predicate, we must understand it not as a predicate of the thing itself, but of the thought of the thing."[1] The traditional cosmological proof also fails because it argues from the existence of the world as effect to God as cause. But this, as Kant showed in his essay on Negative Quantity is quite impossible. It is the fallacy of the Realgrund. Because one thing exists, we cannot establish by logic that another exists.

The physico-theological argument, especially as Kant shaped it in his New Exposition has more worth for him. The unity of the world, the interaction and harmony of all things in the established order, is for Kant the most eloquent argument for belief in God. True it is not a demonstrable proof, it is only convincing. But "it is absolutely necessary that we be convinced of the existence of God, though not so necessary that we demonstrate it."

Yet Kant believes that a demonstration is both desirable

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1. Werke, op. cit., p. 72.

and possible. Therefore he sets about to find it, and he finds it in the germinal thought of his earlier essay, A New Exposition, that the existence of God depends, not upon the conceivability of God, but upon the conceivability of things - upon the possibility of things in general.

The possibility of all things, says Kant, assumes some Being at the outset. For possibility depends not merely upon the non-contradictariness of what is thinkable or thought, but also and primarily upon an actual datum of possibility, a something at hand that can be thought. For, if all existences were obliterated, there would be no material at hand to be thought, and hence no possibility. Reducing this to its lowest terms, we might say: if there were nothing at all, there could be no talk of possibility, as there would then be nothing at all to think.

From this apparently harmless proposition, the argument advances to the next step, namely, that it is utterly impossible that there should be nothing. Now, if it is impossible that nothing exist, then something must exist, and it must be that being, that something, which, if it did not exist, would remove all possible material for thought. For, as shown in the first step of the argument, if all material for thought were taken away, all possibility would be wiped out, and we should have nothing. But this would bring us face to face again with the incontrovertible proposition, that it is utterly impossible that there should be nothing. Hence, that which conditions all possibility must exist.

Kant's fallacy here lies in the assumption that to think away everything possible is impossible, because it would involve the proposition "nothing exists." "Thinking away everything" cannot be equated with "the removal of all possibility." If we think of everything possible as done away, we merely think that all this is not possible. In other words we have here a harmless tautology which cannot possibly support Kant's argument, unless we permit him to slip into it, by a sort of dialectic legerdemain, the assumption that you cannot think away all possibility, and that to do so would involve the self-contradictory proposition "nothing exists."

After he believes himself to have established by this means the existence of an absolutely necessary Being, Kant distinguishes betwsen the Absolute, as that whose non-being would remove all possibility, and the Accidental, as that whose non-being would not remove all possibility. He then tries to show that the Absolute is One.

Whatever is the ground of all possibility must be a simple, irreducible Being, and cannot consist of manifold substances or independent parts. The argument here is, as Kant thinks, a reductio ad adgurdum. For, if we were to assume that the necessary Being which is the ground of all possibility is a manifold of different substances, since different substances are only parts, and therefore accidental, we should have to conclude that the All-inclusive Reality of which they are parts is also accidental. In other words, we should

then have a conditioned Absolute, which is self-contradictory and absurd.

But this proof of the unity of the Absolutely Necessary Being depends upon an incorrect premise; namely, that you cannot predicate of a totality what could not be predicated of the component parts, for example, the individual stones in a foundation are not necessary to a house, but the entire foundation of which they are a part, is. Furthermore, it is scarcely proper to call that "accidental," the non-existence of which would not remove all ground of possibility; for the existence of such a thing would at least be necessary for that possibility which corresponds to it. To this argument, Kant seems to make this answer: If we admit what has been said, we should have to admit that some possibility is removed while the rest remains. But this is impossible; for to say that any inner possibility might be removed must be seen to involve ultimately the proposition that nothing exists, and this is absurd. Whatever contains the ground of any possibility must contain the ground of all possibility. Still, Kant has not proved what he wishes and needs to prove: that the ground of all possibility must rest in a simple, necessary Being. He has proved only that there really can be no "Accidentals," and that everything which exists, exists of necessity.

It is interesting to note that, although Kant had objected to the confusion of conceptual reality with actual reality in all previous arguments for the existence of God, he does not himself

succeed in bridging the gap between that and its object, between the idea of God and the existence of God. As Caird has said, "He is so far from seeing that this is the necessary result of his logic, that he goes on to argue that the Absolute Being must be conceived as a spirit, endowed with absolute power, absolute wisdom, and absolute goodness."[1] In his fourth and final work of the year 1762, the Prize Essay, he again sets out as in The Only Possible Ground, "to proceed as one who is seeking definitions and makes some in advance of that which he can affirm or deny with certainty concerning the object to be defined, even though he may not know of what the completely determined concept consists."[2]

1. Caird, Critical Philosophy of Kant, 1, p. 324.
2. Kant, op. cit., p. 71.

CHAPTER IV.

ANALYSIS OF THE PRIZE ESSAY ON NATURAL THEOLOGY AND MORALS.

We have seen how Kant started on his philosphical career a Newtonian in his physics and cosmogony, a Leibnis-Wolffian in his metaphysics and epistemology. We have seen how his ineffectual efforts to harmonise the two positions, bred in him a wholesome skepticism. We have seen how in his essay on The Only Possible Ground, he makes a last stand to prove the existence of God by pure reason. But we have seen also how in this and the Essay on Negative Quantity he came to the belief that, except in demonstrating the existence of God, we cannot argue from the necessities of thought to existential reality.

Thus, whether we hold with Fischer that the Essay on Negative Quantity preceded the Prize Essay or with Paulsen that it followed, or whether we assume with Erdman that the former was interrupted in order that the Prize Essay might be written, it is clear that by the latter part of the year 1762 Kant had become deeply and primarily absorbed in the question of method. His letter of June 28, 1763, to Formey disclosed the fact that he had been thinking on this theme for some time; and his sometimes caustic remarks in the Only Possible Ground concerning the uncertainty and inadequacy of the current metaphysics, points in the same direction.

At any rate, the question raised by the Academy: "Are the meta-

physical sciences capable of the same evidence as the mathematical sciences?" gave Kant an excellent opportunity to bring his reflections on questions of method to a focus and his "Investigation concerning the Distinctness of the Concepts in Natural Theology and Morals is the result.

The four parts of the essay raise four fundamental questions:

1. Why is the method employed in Mathematics wrong in Metaphysics?
2. What is the right method for metaphysics?
3. What is the exact nature of metaphysical certainty?
4. What, in the light of the principles set forth, is the true metaphysical basis of natural theology and morals?

I.

In answering the first question, Kant compares the method employed in mathematics with that which he believes should be employed in metaphysics. The answer to the second question is, therefore, contained in part in his answer to the first.

Mathematics, says Kant, always arrives at its definitions synthetically, and the mathematical object comes into being with the definition. Metaphysics, however, must arrive at its definitions analytically; and the concept of the object with which it starts is a confused concept which precedes the definition of the object. In mathematics, definitions are the beginning; in metaphysics, the end of the process. Wherever metaphysics has tried to arrive at definitions synthetically by a combination of concepts as in mathematics, it has been guilty of serious error. To say, for example, that "Spirit is a thinking substance" is not actually to define spirit, but to explain

words by more words.[1] It was this sort of procedure on the part of Kant's contemporaries, which prompted his increasingly numerous aspersions against the metaphysics and the metaphysicians of his day.

Kant is unquestionably right in protesting the imitation of mathematical method in metaphysics, at least in so far as that imitation involves the arbitrary combination of concepts which are themselves vague and uncertain. There is also no gainsaying his contention that the concepts which constitute the starting point for all inferences in the two disciplines are different in character. But is the difference due to a difference in the method by which the fundamental concepts are acquired? Is it, in other words, because the concepts with which mathematics starts are the product of synthesis, while those with which metaphysics must start are the product of analysis?

True, Kant does not claim that the concepts with which metaphysical speculation opens, are the product of analysis. But he insists that those 'sure and certain' concepts, which metaphysics must use to achieve certainty, are the product of analysis - the analysis of those confused concepts with which metaphysical speculation begins.

The answer to the question I have raised here is not clearly indicated. It must, however, be given in psychological terms, and might take this general direction:

The fundamental concepts of mathematics, for example, such a concept as that of a straight line, is not the product of synthesis,

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1. Fischer, Op. cit. p. 215.

though it is, beyond a doubt, clearer than such a metaphysical concept as Freedom. The first man to recognise "straightness" had an experience which was easily identifiable by himself and others, but the differentiation of that experience from the related one of "curvedness", as we have it in the axiom, " A straight line is the shortest distance between two points", was the result of analysis; and it is this carefully defined concept, not the original experience of straightness, which constitutes the basis of our mathematical inferences and guarantees their certainty.

The real explanation of the difference in the clearness of the primary concepts of the two disciplines is a difference in the degree of their complexity, resulting in a difference in the degree of their "unmistakability." "Straight" is the label applied to a concept upon which every one can readily agree; and the reason everyone can agree is that the experience of straightness is so single as to preclude confusion with other experiences. It is, so to speak, an experience which has only one aspect, and is, on that account, unmistakable. Not so with the concept Freedom. The experience of freedom is a complex one with many aspects. Of these aspects, some loom up with more importance than others, according to the interests of the individual who seeks to define Freedom. Consequently, there can be no ready agreement among men as to which aspects of the experience constitute its differentia and therefore its definition.

Now, the point Kant makes that metaphysics must start with an analysis of its fundamental concepts, is in no wise invalidated by his

faulty explanation of the difference in distinctness between the "starting-concepts" of mathematics and metaphysics. We may certainly, without reservation, accept his statement that "it is the task of philosophy to analyse concepts given confusedly, to make them complete and definite".[1] "In all its branches", he says, "especially in metaphysics, every possible analysis is needed; for clearness of the cognition as well as the possibility of valid conclusion depends upon it."[2]

Kant's further contention, that in mathematics inferences are made with greater ease and a greater chance of certainty, because the universal is there represented by concrete symbols (by figures denoting quantities, in arithmetic, or by constructed figures which picture concepts in geometry), is not altogether convincing. While there is a greater degree of "consanguinity" between the figure of a triangle and the concept for which it stands than there is between the mere word-symbol "Freedom" and its concept, the difference in difficulty of dealing with the two, in such a way as to derive from them valid inferences, is scarcely due to this difference in the method of prepresentation. This, as I have already said, goes back rather to the difference in the "unmistakability" of the primary concept itself. The modern science of symbolic logic, in dealing with abstractions outside the field of mathematics, also employs symbols, during the use of which we forget the objects they represent quite as completely as we do in

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1. Op. cit., II., 278

2. Ibid., p. 280

mathematical operations. But here again the validity of the conclusions depends not so much upon the nature of the symbols as upon the 'clear-cutness', the 'unmistakability' of the concepts symbolized.

Kant did a great service to metaphysics by his insistence upon the careful analysis of given concepts, in order that the ultimate irreducible concepts might be isolated and defined; for there are many more such ultimate irreducible concepts in metaphysics than in mathematics or the other sciences. Strictly speaking, says Kant, there can be no inexplicable concepts in mathematics at all; for such concepts even, as unity, plurality, and space, are inexplicable from the standpoint of mathematics, only because their explanation does not belong to this science at all.[1] But in metaphysics, the number of such inexplicable concepts is legion, "since it is impossible that general knowledge of such diversity (as metaphysical knowledge) should be compounded merely from a few fundamental concepts".[2] Some of the many fundamental concepts, and this means "irreducible", "inexplicable" concepts, are: the concept of an idea, the concept of juxtaposition, and the concept of sequence. Others, such as time, space, and the feelings of the sublime, the beautiful, the abhorrent, etc. admit of explanation only in part.[3] A list of the ultimates and irreducibles underlying metaphysics would be endless, says Kant.

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1. Kant, Op. cit. II., 279
2. Ibid. II., 280
3. Ibid., II, 280

However, the large number of such concepts is not inimical to a safe and certain procedure in metaphysics, so long as we analyze the concepts with which we start, in such a way as to determine what is clearly and immediately comprehended in them; for it is this which constitutes the inexplicable and irreducible element. We must, in other words, determine which are "original" and which are "derived" attributes of the object which is to be more adequately defined.

But to make such an analysis of given concepts is not as easy in metaphysics as in mathematics. As Kant says: "The relation of a trillion to unity is clearly comprehended, while the philosophers have never yet been able to make intelligible the concept of Freedom on the basis of their unities, that is, their simple and known concepts".[1] Kant sees in the tendency of his contemporaries to use synthetically the complex, unanalysed concepts of metaphysics with the same assurance that a mathematician uses his axioms, the chief reason for the failure of metaphysics to achieve certainty. "Metaphysics is without doubt the most difficult of all human intellections" he says. "The question put by the Academy shows that there is reason for making inquiry as to the road on which we may first of all expect to look for one."

2.

In pointing the way to a sounder procedure for metaphysics, Kant maintains that, despite the necessity of analysis before we can

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1. Op. cit., II., 282

have definitions in metaphysics, "we can know a great deal about an object and draw valid conclusions from it, before we ever have a definition of it and even if we never attempt to give one".[1] So, for example, even though we may not know with certainty what a desire is, we do know with certainty that it presupposes a concept of the thing desired, that it is an anticipation of the future bound up with the feeling of pleasure, etc.[2] But such data are not sufficient to afford an adequate definition of desire; and, should we nevertheless make one, it could not be used as a basis for valid inferences.

The extent to which lack of popular agreement as to the meaning of terms lies at the heart of the uncertainty in metaphysics is brought out by Kant when he says:

> "In philosophy in general and in metaphysics in particular, words derive their meaning from common usage, except in so far as this meaning has been more accurately defined by logical delimitation. Since it frequently happens, however, that for concepts which are similar and yet harbor a concealed difference, the same words are used, as every use of the concept, even though the name given it in accordance with customary usage seem to suit exactly, we must exercise great caution to determine whether, indeed, the concepts which are here tied up with the symbol are themselves the same."

From these considerations, Kant derives two rules whereby metaphysics may proceed with certainty: First, we must begin, not with definitions, but with the singling out of that concerning which we are immediately certain in the object; and, by making inferences from this, arrive

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at such judgments as are true and absolutely certain; secondly, we must

1. Werke, Op. Cit. II. 284

2. Ibid., p. 224

at such judgments as are true and absolutely certain; secondly, we must designate in a special way those immediate judgments concerning the object which have certainty, and assure these at the outset as a basis of inference in the same way that a geometrician employs his axioms. Metaphysics should take its cue, says Kant, from physics rather than mathematics. His statement on this point contains the gist of his answer to the Academy's question:

> "The true method of metaphysics is fundamentally one with the method which Newton introduced into natural science and which yielded such useful results there... We must determine by sure inner experience, i. e., by an immediate and clear awareness, those elements which are implied in the conception of any general property; and although we may not at once comprehend all that belongs to it, we can still make a valid use of our knowledge as a basis for many inferences."[1]

As an example of such procedure, Kant shows how he would establish the proposition: that every object must consist of simple substances. The proof is too elaborate to be reviewed here in detail. It is important to note only, that in supporting the argument that objects consist of simple parts but space does not, he resolves the idea of "occupying space" into "impenetrability" and "impenetrability" belongs to each element of a body and accounts for its "occupying space". It becomes therefore, the criterion of extension. "Here for once", says Kant, "I can adduce an explanation which has immediate certainty, namely: that is extended, which, taken by itself (absolutely) fills

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1. Op. cit., II., 286

space, etc."[1] But is this not a mere tautology or verbal explanation of the sort Kant himself has objected to in metaphysics? And of what value is such a proposition even though it may have immediate certainty? What can we deduce from it? It is difficult to see how the method Kant proposes can ever yield any considerable body of absolutely certain judgments upon the basis of which metaphysics may proceed synthetically. His assurance that it might do this and thus achieve the certainty of mathematics was based upon the assumption that the analysis whereby confusedly given concepts were to be made clear and certain would yield postulates as fruitful for synthesis as these of mathematics. But this it does not do. Kant had not yet reached the critical stage of this thought; he had not yet answered the question upon which the possibility of a science of metaphysics rests: How are synthetic a priori propositions possible?

Nevertheless he was preparing the way. His criticism of the method employed by contemporaries who sought to employ the synthetical method of mathematics, without analysing the concepts and assumptions with which they started, was penetrating and had a wholesome effect. He says:

> "As soon as the philosophers launch out in the natural road of sound sense and first of all investigate that which they know with certainty concerning the abstract concept; - - - - if they will draw conclusions only from these sure data; if they will exercise due caution at each variation in the use of the concept to determine whether the concept itself is not changed, whether its symbol be the same or not; then they will not have

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1. Werke, Op. cit., p. 287

so many explanations to put upon the market, but those which they do offer will have a value beyond question."[1]

That metaphysics was far from being able to proceed synthetically, Kant himself was keenly aware. "We are," he writes, "still far from the time when we can proceed synthetically in metaphysics." But precisely how far he did not fully realise.

Kant's real answer to the Academy's question is contained in the third part of his essay, Concerning the Nature of Metaphysical Certainty. While he contends at the outset that in any event metaphysical certainty is different in kind from the certainty of mathematics, toward the close of this part of the essay he says, "Metaphysics is just as capable of the certainty necessary to conviction as mathematics." Thus from Kant, as well as from Mendelssohn, the Academy's question: "Are the metaphysical sciences capable of the same evidence as the mathematical sciences?" receives an affirmative answer.

"We are certain," says Kant, "when we know that our knowledge cannot be false." The degree of certainty may be measured from an objective or a subjective standpoint. From the objective standpoint it depends upon the necessity of a truth, that is, the impossibility of its being anything other than it is. From the subjective standpoint it depends upon the concreteness of our ideas. The common source of error in all our intellections, Kant claims, is not our failure to combine

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1. Werke, Op. cit. p. 289

concepts according to rule, but the tendency to conclude that essential characteristics which we fail to detect in an object are not there at all. Hence our definition of concepts is often faulty and the inferences we make from them, false.

Now mathematics is less liable to such error than metaphysics for two reasons:

(a) Since it arrives at its definitions synthetically, it arbitrarily includes only such essential characteristics as it cares to; and it, therefore, always knows with a certainty just what its concepts include.

(b) Mathematics thinks by means of concrete symbols, thus avoiding the necessity to which metaphysics is reduced, of keeping on the level of pure abstract thought - a severe demand upon the mind.

In his first reason, as in the first two parts of the essay, Kant sees the superiority of mathematics over metaphysics as regards its chances of certainty in its synthetic procedure. "Mathematics," he says, "can safely say without fear of challenge, that, whatever it does not wish to represent in the object by definition, is not contained in it." But the real reason why mathematics can assert this "without fear of challenge", lies beyond its synthetic character, in the common social agreement upon its primary concepts.[1] Agreement upon, and therefore the certainty of, mathematical concepts does not depend upon the synthetical method; the synthetical method, rather, is possible only because of prior agreement

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1. Cf. p. of this essay, where I have made the same point.

upon the concepts.

It would have been closer to the truth to have laid the difference in liability to error here to a difference in the relative simplicity or complexity of the initial concepts in mathematics and metaphysics. If error is due to the fact that we overlook some essential characteristic in an object and fail to include this in our concept of it, then freedom from this source of error in mathematics is easily explainable.by reference to the simplicity of its concepts. These, as I have sought to point out in the case of "straightness", are derived from singular experiences, experiences which are identified with a single mental process, so that there is only one characteristic to be concerned about. This we either have or do not have before us, so that there can be no doubt as to what the concept covers. In metaphysics, on the other hand, our concepts are complex. They have not this "singularity", this "unmistakability" of mathematical concepts. Hence, there is a great possibility of our overlooking essential characteristics; and we may, therefore, be partly right and partly wrong in our definitions.

As for Kant's second reason, there can be no doubt that the more concrete symbols employed in mathematics, make mathematical processes less liable to error than metaphysical reasoning. For it is true that where the mind must burden itself constantly with abstractions, and these of a complex sort, as in metaphysics, there is great danger of losing the sharp definition of concepts required for rigorous thinking. In certain branches of mathematics it is quite possible to proceed, as Kant says, without thought as to the abstract concepts which the symbols represent, until the conclusion is to be interpreted. But in metaphysics the mind

is kept upon the trying level of abstract thinking from the beginning to the end. A greater liability to error is the result.

But Kant's rather elaborate discussion of this point is an analysis of the certainty of the logical processes in mathematics and not of the certainty of its foundations. Naturally enough, if we take the foundations for granted and concern ourselves only with this logical superstructure, (the synthetic processes), mathematics is in so far certain, for its use of concrete symbols makes inference easy and reduces the possibility of error to a minimum. But the real reason for our confidence, even in the logical superstructure of mathematics, is, on the whole, our confidence in the intactness of its foundations; that is to say, to the compelling aspect of fundamental mathematical concepts. This Kant fails to see.

However, he does not fail to see that, given equally certain primary concepts, metaphysics, by properly guarding against the errors characteristic of the abstract nature of its symbols as well as its ideas, may proceed to synthesize as safely as mathematics. He says:

> "Errors arise not only because we do not know certain things, but because we presume to make judgments, even though we do not know all we need to, to do this. A large number of errors, yes, nearly all, owe their origin to this rashness. You know several predicates apply to a thing with certainty. Very well then, make these the basis of your inferences and you will not err."[1]

This is clear and convincing enough. However, the synthesis which may be carried on on this basis does not take us very far.[2]

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1. Werke, Op. cit., p. 292

2. I have already pointed this out in my discussion of the first part of the essay. Cf. p.

There is a decided paucity of such concepts as everyone may be agreed upon in metaphysics. They comprise, as Kant points out, the predicates of which we have an immediate and certain awareness. But such predicates are, as a matter of fact, very meager and quite sterile, as far as their furnishing material for synthesis is concerned.

Kant, however, saves metaphysics from bankruptcy by his distinction between primary formal and primary material assumptions. This distinction grows out of his criticism of Crusius' criterion of truth: "what I cannot think of in any other way than as true, is true." By employing this criterion, by giving to the principle of contradiction first place among the principles of knowledge and by making use of many primary postulates which are undemonstrable but nevertheless have immediate certainty, Crusis had hoped to give metaphysics a more secure foundation. But Kant points out that the principle of contradiction holds first place only for negative judgments. The principle which applies to affirmative judgments is the principle of identity. But these two constitute the first principles of metaphysics - the formal side only.[1]

However, all propositions immediately deducible from either of these first principles, are undemonstrable. This is because they have no "mediating mark" of distinction; all others are demonstrable. For example, in the proposition "A body is divisible," analysis in accordance with the principles of identity shows that "a body is a compound" and

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1. Werke, Op. cit. II, 294

that "a compound is divisible". Here "compound" is the mediating mark which points to the conclusion that "a body is divisible". But this tells us nothing new, nothing that was not in the concept body already. No proposition immediately deducible from one of the two formal first principles can give us new knowledge. Hence, Kant agrees with Crusius "when he takes other schools of philosophy to task for disregarding the material assumptions and addressing themselves solely to the formal principles of knowledge. For by these alone, he says, "nothing can be proved"...[1]

The reason nothing can be proved is that "proof would require premises containing a middle term, whereby the logical relationship of other terms is to be brought out in a rational conclusion, and among these premises some must be primary."

The matrix of new knowledge in metaphysics is furnished by a whole host of undemonstrable propositions, which constitute the primary material as opposed to the primary formal assumptions of that science. By primary material assumptions Kant evidently means those irreducible and immediately apprehended elements in the metaphysical object which are given in experience and which "furnish the material for definitions and the data from which conclusions can safely be drawn, even when we have no definitions."[2] The test of such assumptions is their obviousness.

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1. Werke, Op. cit., p. 295

2. Ibid. p. 295

"We can never ascribe to some premises the importance of primary material assumptions, if they are not obvious to every human understanding." Here Kant seems fully to realise the importance of what I have called 'agreement'; that is, common assent as to what is implied in the primary concepts. If we are careful to proceed only with such primary material assumptions as are "obvious to every human understanding", we shall be on sure ground, and our ratiocinations will yield valid conclusions.

Although in mathematics the definitions are the undemonstrable primary assumptions, whereas in metaphysics the undemonstrable primary assumptions must take the place of definitions and furnish the original data of thought, "these data", according to Kant, "can be equally valid and offer either material for definitions or the ground for safe inferences". Hence, Kant concludes that "metaphysics is as capable of the certainty necessary to conviction as mathematics."[1]

The main purpose of the Prize Essay is accomplished in the first three parts. When Kant takes up in the fourth part the First Principles of Natural Theology and Morals, it is only because these are specimens of metaphysical disciplines and serve to illustrate his findings with regard to metaphysical certainty. His reflections on this topic need not, therefore, detain us very long.

In applying to theology the metaphysical method he has set up, Kant claims to prove that, in this field at least, it can produce first principles which are capable of the highest possible evidence. As he takes the object of natural theology to be the Sole First Cause, he is

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1. Werke, Op. cit. p. 296

chiefly concerned with the establishment of this concept. It is easy to establish this concept, he says, because the clearest differentiation is naturally possible when a thing is the only possible one of its kind. The determinations of such a thing are not easily confused with the determination of other things.

The argument he follows in proving the existence of God is the same as that which he worked out in greater detail in The Only Possible Grounds, and may be summarized as follows:-

1. It is not possible that nothing exist. Existence is an empirical not merely a logical concept.

2. Something must exist, without which nothing is possible. In other words:

3. There exists An Absolutely Necessary Being.

4. Analysis of this concept shows correspondence to our concept "God".

As I have already pointed out the weakness in this argument in discussing The Only Possible Ground[1], I shall not enter into a criticism of it here. It is important to observe, however, that so far, the method Kant has set up has resulted only in a rather barren postulate, namely, that there is a Necessary Being. And he admits that he can go no further with that mathematical certainty which he has sought to make possible for metaphysics, when he says, "Judgments as to his (the Necessary Being's)

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1. See p. of this essay.

freedom, his providence, and the exercise of his justice and mercy can in this science, have only approximate or moral certainty". Thus precisely in respect to those attributes of God in which we are humanly most interested, we are left without the certain knowledge which Kant's claims for his method might lead us to expect.

For the first principles of morals established by this method, he claims far less than for the first principles of natural theology. The concept of moral obligations, he says, is little understood and we are in ethics still far from the necessary clearness and distinctness of primary concepts and assumptions to afford certainty.

He analyzes the concept of obligation as follows:

"Something ought or ought not to be done. "Ought" is the formula for the expression of all obligation. It expresses a necessity of the action to take place. This necessity may be (a) a necessity of the means to an end, or (b) a necessity of the end itself. The first type of necessity does not involve moral obligation at all, as it means merely that a certain kind of behavior is necessary to achieve an end. The necessity of moral obligation is of the second type- necessity of the end. While practical rules of conduct could all be brought under the head of the necessity of means, they would not express moral obligation. Says Kant "... the principle, to be a rule and ground of obligation, must require the action as inherently necessary, and not as coming under the conditions for the attainment of a certain end."[1]

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1. Werke, Op. cit. p. 298

The primary formal ground of obligation, according to Kant, is the rule: "Do the best that is possible for you".[1] From the standpoint of conduct to be avoided, the rule may be stated: "Leave, that undone, by which the highest perfection possible through you is hindered".[2] But Kant is quick to see that from these two formal principles no specific obligations can follow unless the mind is first imbued with some undemonstrable notions of concrete good.[3] Just as there are primary appreciation of what is good. This good is not inherent in things but in the relation of sentient beings to things. It is the task of metaphysics, particularly of morals, to analyse the concept of the good, "showing at the same time how it arises out of the simpler feelings for the good".[4]

But when all this is done, the judgment "This is good", will be found undemonstrable, says Kant. Psychologically it is grounded in "the consciousness of the feeling of pleasure associated with the representation of the object". And since we have many simple feelings for the good there must be as many simple concepts corresponding to these.

Accordingly when any action is felt to be intrinsically good, the necessity of this action is an undemonstrable particular datum of moral obligation. An example of this is cited by Kant:

> "There is, an intrinsic repugnance about an action which opposes the will of Him from which our Being and all good comes. This repugnance is clear, even though we may not regard the disadvantages which might accompany such conduct as consequence. So the principle: 'Do that which is in accordance with the will of God', becomes a material assumption of morals, which falls directly under the primary general formula already mentioned."[5]

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1. Werke, Op. cit. p. 299
2. Ibid. p. 99
3. Ibid.
4. Ibid.
5. Ibid. p. 300

While Kant believes that the First Principles of Morality are capable of the highest degree of philosophical certainty, he sees clearly that this cannot be attained until the primary sources of moral obligation are more definitely determined. He discloses that his thought on this question has been influenced by the English Moral Sense School, when he says, "Hutcheson and others, under the name of 'moral sense' have laid the foundation for some fine observations on this point."[1] While Kant inclines toward the views of the moral sense theory, he is by no means fully persuaded that ultimately our concepts of obligation go back to innate feelings for the good. He concludes by saying that moral philosophy has still to determine whether the knowing or the feeling faculty determines its primary assumptions.

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1. Werke, Op. cit. II, 301

CHAPTER V.

SUMMARY OF THE DEVELOPMENT OF KANT'S IDEAS ON CERTAINTY UP TO 1763.

A summary of the progress made by Kant in the earlier works, which have been discussed here, will serve to establish the significance of the Prize Essay in the unfoldment of Kant's thought. His metaphysical Odyssey leads him, speaking in general terms, from the safe and snug haven of dogmatic rationalism to a position of doubt, in which he questions the reliability and the usefulness of the rationalistic method and then, in the works of 1762, to a point where he wholly rejects this method and advances one of his own which he believes will be more fruitful and certain, but which, in the last analysis, is not essentially different from the rationalistic procedure he has criticised.

While Kant was still a student, Knutsen had sought to harmonise the Newtonian natural philosophy with Leibnis' universe of monads in pre-established harmony by the conception of the influxus physicus, whereby a sort of interaction between mind and matter, between the more fully self-conscious and the less-self-conscious monads was made plausible. Kant in his earlier works on physical and astrophysical topics sought, as we have seen, to effect a more satisfactory adjustment of the opposing views.

In his essay on Living Forces, he sought to show that God had so endowed matter with living force that one body could receive force from another body in a state of rest. He found that the mathematical

conception of force and its measurement as advanced by Descartes did not do justice to this living force, which after all does exist for the physicist. This force had been slighted, according to Kant, because of a faulty method. He says:

> "We must have a method by means of which, we can in every case, through general examination of the assumptions upon which a certain meaning has been built and by the comparison of it with the conclusions drawn from it, determine whether or not the nature of the premises is such as to include all that is required of them by the conclusions drawn."[1]

If philosophers, he concludes, had always been at pains to proceed in this fashion, they might have avoided many errors or at least extricated themselves from the meshes of error much sooner.[2]

At the outset, we may say, therefore, Kant took for granted the unlimited power of human reason to get at truth and the reliability of the mathematical method. He is concerned merely to enjoin a critical examination of the premises in each case, so that conclusions will not be invalidated by the oversights or unwarranted assumptions.

In his cosmogonic essays, the Universal Natural History of the Heavens and the Physical Monadology, Kant is still concerned about harmonizing Newton and Leibniz, the universe of matter endowed with the powers of attraction and repulsion, and the universe of monads, having no reciprocal influence upon each other, according to a pre-established harmony. The influxus physicus, which Leibniz had held to be impossible, he holds with Knutzen to be a fact. By doing away with the medieval, anthropomorphic conception of God and insisting upon a natural rather

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1. Op. cit., I, 93.
2. Ibid., p. 95.

rather than a supernatural explanation of the cosmic order, he removed a great hindrance from the progress of scientific and philosophic thought. But he still finds the conception of God essential to account for the influxus physicus, and still takes for granted at least the reliability of the cosmological and physico-teleological proofs for His existence.

The New Exposition is a new exposition of the two cardinal principles of rationalism: the law of contradiction and the law of sufficient reason. These principles seem inadequate to account for the known facts upon which the Newtonian principles and Kant's cosmogony were based. The contention that existence is implied in the conception of a thing and that conceptual reality can, therefore, be equated with actual reality, receives its death-stroke in this "new exposition". With it goes the traditional form of the ontological argument for the existence of God, for which Kant substitutes a new form of ontological argument according to which God must exist because he is the ground of all possibility- of all thinkability.

But this new deduction of the God-concept still implies the primacy of human reason and the adequacy of formal logical processes to achieve certain knowledge, provided only we are careful not to deduce more than is contained in the premises. In other words, Kant still believes that by a careful application of the mathematical method we can reconstruct reality and its causal relationships. He is still a rationalist.

Not until we reach the essay on The False Subtility of the Four Syllogistic Figures, (1762) and the other essays of that year, does Kant seem to be very keenly aware of the inadequacy of the rationalistic methods summarised in the law of contradiction and the law of sufficient

reason. In the essay on Negative Quantity particularly, he seems to realise that the aping of the mathematical method in metaphysics has been the source of much evil and little good. The distinction between logical and real contradiction, between the logical ground and the real ground for anything, was an important advance; for it was this that led to the realisation on Kant's part, that neither the law of contradiction nor that of sufficient reason can explain how it may be, that "because something exists, something else exists also."[1]

But, if we cannot on this basis know that something exists because something else exists, we cannot deduct a world from the concept, God. Hence, in The Only Possible Ground, Kant casts aside the cosmological as well as the older form of the ontological argument for God. The new form he gave the latter argument is derived from the concept of "possibility" -- the possibility of existence uberhaupt. The same deduction is again made in the Prise Essay, which fortunately, however, contains something much more valuable than this.

The essay on Natural Theology and Morals marks an advance over Kant's own previous conceptions and those of his contemporaries, in two respects: his protest against the use of synthesis in metaphysics before its fundamental concepts and assumptions have been made clear and distinct by analysis, and in his insistence upon some undemonstrable empirical postulates as the basis for inferences leading to new truths. Without primary material assumptions we can have no raw material for inferences, no straw for the making of bricks.

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1. I agree with Boehm that it is not necessary to infer that Hume's skepticism had anything to do with this. The internal development of Kant's own thought alone can account for it. So, in the absence of convincing external proofs, it is better to assume that Hume had nothing to do with Kant's difficulties with the question of causation at this time (Cf.Boehm:Die vorkritischen Schriften. Kants, p.59.)

But when Kant holds out the prospect of metaphysics being able to build up a structure of knowledge comparable to that of mathematics, he overestimates the fruitfulness of his method. For, as I believe I have shown in my analysis of the essay, if we proceed, as he insists, to make inferences only from that which is clear and certain and immediately apprehended in the metaphysical object, we cannot proceed very far. The whole matter hinges upon the "singularity" the "unmistakability," the clearness and certainty of the primary undemonstrable concepts.

Kant, in his attempt to establish the first principles of morals, more nearly than elsewhere realizes this difficulty. When he insists upon "primary material assumptions" he means that we must have some notions of concrete good with which to start. The difficulty lay in the fact that no inferences can be made from these unless they are "obvious to every human understanding," and this they are not.

But in all this, in the Essay on the Four Syllogistic Figures, in the Essay on Negative Quantity and in The Only Possible Ground, Kant never despairs of the ability of human reason to penetrate to knowledge of things as they are. He still believes that, in metaphysics as in mathematics, analysis will enable us to define such concepts as will make synthetic procedure possible. It remained for Hume's skepticism to arouse Kant completely from his dogmatic slumber, and to impel him to question, in the Critique of Pure Reason, whether we can have any knowledge at all.

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EXPLANATION

A word is necessary here concerning the principles I have followed in the process of translating. I have sought to produce, not a transliteration, but an exact reproduction of the thought expressed in the original. In the interests of readibility, I have, of course, had to change the sequence of clauses and to break up long involved sentences into briefer and simpler ones. But nowhere has this been done, I believe, without meticulous regard for the coordination and subordination of ideas in the original.

As Kant at the time of this essay had not yet fallen into that equivocal use of terms to which the difficulty and complexity of his thought in the Critique of Pure Reason drove him, I encountered only moderate difficulty in the determination of meanings. Those words which offered difficulty are given here, together with an explanation of the equivalents I have used in rendering them:

Begriff, regularly translated by "concept" or "conception", occasionally by "idea."

Grundbegriff, translated by "fundamental" or "primary" concept.

Erkenntniss, translated by "knowledge" or "science" occasionally in plural by "truths".

Formel, translated by "formula" or "principle".

Oberste or alleroberste Formel, translated by "first principle".

Merkmal, translated by "distinguishing characteristic" except where the meaning could be made clearer by use of "mark of identification" or "mark of distinction".

Vorstellung, translated by "representation" except where context clearly indicated "concept", "idea" or, as in one case, "percept".

INVESTIGATION

Concerning the

Distinctness of the Concepts

of

NATURAL THEOLOGY AND MORALS

In

Answer to the Question

which the

Royal Academy of Sciences at Berlin

put

for the year 1763

Verum animo satis haec vestigia parva sagaci
Sunt, per quae possis cognoscere caetera tute.

Introduction

The question put is of such a character that, if properly answered, metaphysics must as a consequence take on a definite form. When the method has been established whereby the highest possible certainty is well understood, instead of having the endless folly of opinions and schools of opinion, an unvarying prescription of method must unite all thinkers in one line of effort, just as Newton's method in natural science exchanged loose physical hypotheses for a safe procedure based upon experience and geometry. But what method shall this essay itself have, in which the true extent of metaphysical certainty and the manner of reaching it are to be shown? If this paper also is to be metaphysics, then its conclusion will be just as uncertain as that science has been, which hopes through it to achieve something of stability and perpetuity, and all is lost. I shall, therefore, let assured empirical postulates and immediate inferences from these constitute the entire content of my essay. I shall depend neither upon the teachings of the philosophers, whose very uncertainty is the occasion of the present task, nor upon definitions which are so often misleading. The method I shall follow will be simple and cautious. Some points which may be found disputable are of the sort used only for elucidation and not as proof.

PART ONE

General Comparison of the Methods of Reaching Certainty in Mathematics and Philosophy Respectively

Section I

Mathematics arrives at all its definitions synthetically, whereas philosophy arrives at its definitions analytically.

Every general concept can be arrived at in either of two ways: through arbitrary combination of other concepts, or through abstraction from such knowledge as is made clear by analysis. Mathematics never arrives at definitions in any but the first-mentioned way. We need only to conceive arbitrarily, for example, of four straight lines which enclose a plane in such a way that the opposite sides are not parallel, and to call this figure a trapezium. The concept which I define, is not only not given prior to the definition, but is actually derived from the definition itself. A cone may otherwise signify what it will; in mathematics it results from the arbitrary representation of a right angled triangle revolving on one side. The definition in this and all other cases is obviously the product of synthesis.

It is quite otherwise with the definitions of philosophy. Here the concept of a thing is already given, but vaguely or inadequately determined. I must analyse it, compare the abstracted characteristics with the given concept in all sorts of cases, and make this abstract thought complete and definite. Everyone, for example, has a conception

of time. Let us suppose we are to explain this. I must consider the idea in all sorts of relationships, in order, by a process of analysis, to discover its distinguishing characteristics; and combine the various abstracted characteristics, to determine whether or not they furnish an adequate concept and are compatible with one another; whether, in part, one does not include the others. Now, if I were to attempt at this point to arrive at a definition of time synthetically, what a fortunate accident it would be if this definition should turn out to be the one which completely expresses the idea we had in mind!

It will be said, of course, that occasionally the philosopher explains synthetically and the mathematician analytically; for example, when the philosopher arbitrarily conceives a substance with the faculty of reason and calls it spirit. But I answer: such determinations of the meaning of a word are never philosophical definitions. If they are to be considered explanations at all they are merely verbal. For it is not philosophy's task to determine what sort of a name I wish to assign to an arbitrary conception. Leibnis imagined a simple substance which had nothing but confused perceptions, and called it a "sleeping monad." In so doing he had not explained this monad, but invented it; for its concept was not given to him, but was created by him. The mathematicians, on the other hand, have now and then explained analytically, I grant, but it was also in every instance a mistake to do so. Thus Wolff studied similarity in geometry with a philosophical eye in order that he might treat under the general concept

of similarity, the similarity which is treated of in geometry. He might just as well have left this aside; for if I conceive figures in which the angles enclosed by the sides are mutually equal and the sides which enclose them have the same relationship, this can always be taken as the definition of the similarity of the figures, and so with the other similarities involved in space. The geometer is in no wise concerned with the general definition of similarity as such. It is fortunate for mathematics, that, although the mathematician now and then, because of a poorly understood obligation, deals with such analytical explanations, he in fact concludes nothing from them; that is to say, his immediate inferences furnish the basis for the mathematical definition. If this were not the case, this science would be exposed to the same unfortunate wrangling as philosophy.

The mathematician is concerned with concepts which frequently are susceptible of a philosophical interpretation; for example, with the concept of space as such. However, he accepts such a concept as given in the clear and common notion of it. Occasionally philosophical interpretations are taken over from other sciences, especially in applied mathematics; for example, the notion of fluidity. But then this sort of definition does not have its source in mathematics; it is only used there. It is the task of philosophy to analyse concepts given confusedly, to make them complete and definite. It is the task of mathematics, on the other hand, to combine and compare concepts of quantities, which are clear and distinct in order to discover what can be deduced from them.

Section II.

Mathematics, in its solutions, proofs and conclusions, deals with the universal expressed by means of concrete symbols; philosophy, with the universal, through abstract symbols.

Since we are here discussing our propositions only as immediate deductions from experiences, I appeal in support of the one before us, first of all to arithmetic, the general arithmethic of indefinite quantities as well as the arithmetic of numbers, in which the relation of the quantities to unity is specified. In both, the symbols with their special signs of addition or subtraction, their relations, etc., are put in the place of the things themselves, and we then proceed with these symbols according to easy and trustworthy rules by substitution, combination or subtraction and other such transformations in such a way that the thing symbolized is left entirely out of mind during the process, until finally, in the answer, the meaning of the symbolical conclusion is disclosed. In the second place, in geometry, for example, to discover the properties of all circles, we trace one circle, within which we draw, not all possible intersecting lines, but two only. From these we demonstrate the proportions and study in them concretely the general rule of proportions of intersecting lines in all circles.

If we compare with this the procedure in philosophy, we find it to be totally different. The symbols of philosophical ideas are never anything else than words, which do not by their form indicate

the component ideas of which the complete idea represented by the word consists; nor are they in their combinations able to indicate the relationships of the philosophical ideas. Consequently in every reflection of this sort, we must keep the thing itself before our eyes, and are compelled to represent the universal abstractly, without being able to resort to this great convenience of discussing concrete symbols rather than the general concepts of things themselves. If, for example, the mathematician wishes to prove that space is infinitely divisible, he takes a single straight line, drawn perpendicularly between two parallels, and from a single point in one of the latter, draws other lines which intersect it. He ascertains with the utmost certainty by this symbolic representation that the division must go on without end. When the philosopher, on the other hand, wishes to prove, e. g., that every body consists of simple substances, he must first make sure that the body is actually a whole made up of substances, that their combination is an accidental condition, without which they might equally well exist, that consequently all combination within a body might be done away with in thought, in such a way, however, that the substances of which it consists would still exist; then, since that which remains of a compound, when all combination is done away with, is simple, he can show that the body must consist of simple substances. Here neither figures nor visible symbols can express either the ideas or their relationships. Likewise no substitution, according to rule, of

symbols for the abstract ideas can be made, so that we may substitute in this process the clearer and easier representation of symbols for the representation of the things themselves. Instead we are compelled to weigh our object abstractly.

Section III.

In mathematics there are only a few inexplicable concepts and undemonstrable propositions, while in philosophy there is a countless number.

The concept of quantity itself, the concepts of unity, plurality, space, are inexplicable, at least from the standpoint of mathematics; that is to say, their analysis and explanation does not belong to this science at all. I am well aware that many mathematicians confuse the boundaries of the sciences and occasionally attempt to philosophize on the doctrine of quantity. That is why they still seek to explain such concepts, although the definition in such a case has no mathematical significance whatever.

However, it is certain that every concept - whether or not it be capable of explanation in other sciences - is inexplicable, at least from the standpoint of any particular science in which such explanation is not required. And I have said that there are few of this sort in mathematics. But I go further and maintain that, strictly speaking, there can be no such concepts at all, in the sense, namely, that their explanation through the analysis of concepts belongs

to mathematical knowledge, assuming that explanation is otherwise possible. For mathematics never explains through analysis a given concept, but, through arbitrary combination, an object, the conception of which becomes possible only through this process.

If we compare philosophy with mathematics in this respect, what a difference looms before our eyes! In all its branches, especially in metaphysics, every possible analysis is needed; for clearness of the cognition, as well as the possibility of valid conclusions, depends upon it. We can see from the very start, however, that we shall in the analysis inevitably come upon concepts, which are either in and of themselves incapable of dissection or incapable of dissection for us, and that there will be an uncommonly large number of these, since it is impossible that general knowledge of such great diversity should be compounded merely from a few fundamental concepts.

For this reason, many concepts are almost wholly incapable of explanation; for example, the concept of an idea or that of juxtaposition or sequence. Others admit of explanation only in part, as the concept of space, of time, and of many feelings of the human soul, the feeling of the sublime, of the beautiful, of the abhorent, without exact knowledge and the explanation of which the impulses of our nature are not sufficiently well known, and in consequence of which a close observer becomes aware that the analysis is far from adequate. I admit that the explanations of pleasure and displeasure,

of desire and repugnance, and countless other feelings of this character, have never reached adequate solutions; and I do not marvel at this insolubility, for concepts of such diverse sorts must have different elementary concepts as their base. The error which some have committed, of dealing with such knowledge as though it could all be reduced together into a few simple concepts, is like that into which the ancient nature philosophers fell in supposing that all matter in nature consists of the so-called four elements, a conception which has been invalidated through more accurate observation. Furthermore, mathematics has as its basis only a few undemonstrable propositions, which in this science are regarded as having immediate certainty, even though in others they should permit of proof; the whole is equal to the sum of its parts; between two points there can be only one straight line, etc. This sort of postulate, the mathematicians are accustomed to set up at the very outset of their systems, in order that we may know that no propositions other than such obvious ones are assumed outright to be true, and that all others are rigorously proved.

If we should compare with this philosophy, particularly metaphysics, I should like to see an index made of the undemonstrable propositions which serve as the basis for these sciences throughout their whole extent. It would certainly be an endless list; yet it is the investigation of these undemonstrable truths that constitutes the most important task of metaphysics, and these investigations will

never come to an end as long as such a method of knowledge is pursued. For whatever the object may be, the distinguishing characteristics which the understanding first of all and immediately becomes aware of, are the data for as many undemonstrable propositions, which in turn constitute the raw material out of which definitions can be made. Before I set out to explain what space is, I see clearly that, since this concept is given to me, I must first of all, through analysis, select the distinguishing characteristics which are a priori and immediately thought in it. I observe accordingly that there is in it a manifold of mutual externality, that this manifold does not consist of substances (for I do not wish to know the things in space but space itself), that it can have only three dimensions, etc. Such propositions can no doubt be discussed, if we consider them concretely in order to know them by intuition, but they can never be demonstrated. For how should this be done, since they constitute the first and simplest ideas which I can have of my object when I begin to think it? In mathematics the definitions are the first thought which I can have of the thing defined, because my concept of the object first comes into being through the definition; and so it is utterly absurd to regard it as demonstrable. In philosophy, where the concept of the thing I am to define is given to me, that which is immediately and primarily comprehended in it must serve as an undemonstrable primary assumption. For, since I do not as yet have the

complete and clear concept of the object, but make the securing of it my primary quest, the assumption cannot be explained by this concept, but serves rather through its use to engender the clear knowledge and definition which are sought. I must, therefore, have primary assumptions before I can make any philosophical explanation of things, and the only possible fallacy that may creep in is that of regarding as an original characteristic that which is only a derived one. In the discussion which follows, considerations will arise which will place this beyond doubt.

Section IV.

The object in mathematics is easy and simple, that in philosophy difficult and involved.

Since quantity is the object in mathematics and in dealing with it we are concerned only with the number of times something is taken, we see clearly that this science must rest upon a few and very clear fundamental postulates of the general doctrine of quantity (which in reality is general arithmetic.) We see there also the addition and subtraction of quantities, their separation into equal factors in the doctrine of roots, following from a few and simple basic concepts. A few fundamental concepts about space make possible the application of this general science of quantity to geometry. In order to be convinced of this, we need only to compare, for example, the easy comprehensibility of an arithmetical object, which embraces

an immense multiplicity, with the much more difficult comprehension of a philosophical idea, in which se seek to know very little. The relation of a trillion to unity is clearly comprehended, while the philosophers have never yet been able to make intelligible the concept of freedom on the basis of their units, that is, their simple and known concepts. That is to say, the varieties of quality which constitute the peculiar object of philosophy are numberless and their distinction makes extreme demands. In comparison, it is much more difficult to explain complex concepts through analysis than through synthesis to combine simple, given concepts, and in this way arrive at conclusions. I know that there are many who find philosophy very easy in comparison with higher mathematics, but these people call everything philosophy which is found in books that bear this title. The difference is manifest in the results. Philosophical ideas have for the most part the common fate of mere opinions and are like meteors, the brilliance of which vouchsafes nothing as to their duration. They disappear, but mathematics remains. Metaphysics is without doubt the most difficult of all human intellections; but a metaphysics has never yet been written. The question put by the Academy shows that there is reason for making inquiry as to the road on which we may first of all expect to look for one.

PART TWO

The Only Method of Reaching the Highest Possible Certainty in Metaphysics

Metaphysics is nothing else but a philosophy of the first principles of our knowledge. Accordingly, that which was set forth in the foregoing part concerning mathematical knowledge in comparison with philosophy, will also be applicable to metaphysics. We observed specifiable and essential differences which exist between the mode of cognition of the two sciences, and in view of these we may say with Bishop Warburton: Nothing has been more harmful to philosophy than mathematics; that is to say, the tendency to imitate mathematics in its method where this method cannot possibly be used. As for the application of this method in those fields of philosophy where knowledge of quantities is a factor, that is something quite different; here that method has immeasureable value.

In mathematics I begin with the explanation of my object, for example, of a triangle, a circle, etc. In metaphysics I may never begin thus, and here the definition is far from being the first thing I know about the object. It is rather almost always the last. That is to say, in mathematics I really have no concept of my object whatever, until definition gives me one. In metaphysics I have a concept given me, confusedly to be sure, for which I am to find a clear, detailed and definite one. How shall I begin this task? Augustine said: "I know right well, what time is, but when

someone asks me, I do not know." Here many processes of untangling obscure ideas, of comparison, subordination and delimitation, must take place, and I will venture to say that although much that is true and penetrating has been said concerning time, an explanation of its real nature has nevertheless never been made. As for the explanation contained in a name, that is worth little or nothing; for even without it, we understand the word "time" well enough not to confuse it with others. If we had as many genuine definitions as occur under this heading in books, with what certainty we should make inferences and draw conclusions from them! But experience teaches us the contrary.

In philosophy, and especially in metaphysics, we can frequently know clearly and with certainty a great deal about an object and draw valid conclusions from it before we ever have a definition of it and even if we never attempt to give one. We can, in other words, predicate various things with immediate certainty about any thing, even though we may not know enough to furnish a completely defined concept of the thing, that is, a definition of it. Although I might never explain what a desire is, I should still be able to say with certainty that every desire presupposes a representation of the thing desired, that this representation is an anticipation of the future, that it is bound up with the feeling of pleasure, etc. Of all this, each and everyone is cognisant through the immediate consciousness of desire. By comparing observations of this sort we might eventually, perhaps, hit upon a definition of desire. However, as

long as that which we are seeking can be deduced from a number of distinguishing characteristics of which we have immediate and certain knowledge, it is unnecessary to venture upon so slippery an undertaking. In mathematics, as we know, it is quite otherwise.

In mathematics the meaning of the symbols is certain, because we can easily reach an awareness of what we wished them to signify. In philosophy in general and in metaphysics in particular, words derive their meaning from common usage, except in so far as this meaning has been more accurately defined by logical delimitation. Since it frequently happens, however, that for concepts which are similar and yet harbor a concealed difference, the same words are used, at every use of the concept, even though the name given it in accordance with customary usage seems to suit exactly, we must exercise great caution to determine whether, indeed, the concepts which are here tied up with the symbol are themselves the same. We say: a man distinguishes gold from brass, for example, when he recognises that the one metal does not have the same density as the other. We say, furthermore that animals distinguish one kind of feed from another, when they devour the one and ignore the other. Here we use the word "distinguish" in both cases, notwithstanding the fact that, in the first instance, it means "to know" the difference, which can never be the case without judging; whereas in the second instance it merely indicates that different percepts bring forth different reactions; in which case, of course, no judgment is necessary. Thus we see in the case of animals, that they are impelled by different sensations to

make different reactions which is quite possible without their having to judge in the least of agreement or difference.

From all this the rules of the method, by which alone the highest possible metaphysical certainty can be attained, follow quite naturally. They differ widely from those which have been followed heretofore, and promise, to the extent that we apply them, a more fortunate outcome than we could ever have expected from some other procedure. The first and foremost rule is this: that we, under no consideration, begin to talk about definitions unless perhaps the meaning of the words is to be sought; for example: "that is necessary, the opposite of which is impossible." But there are few instances even of this sort, where we can so confidently establish the clearly determined concept at the very outset. It is much better to seek carefully first of all that in the object of which we can be immediately certain even before we have the definition of it. Let us make inferences from this and try mainly to arrive only at such judgments concerning the object as are true and absolutely certain, without preening ourselves with a hoped-for explanation which we may not venture upon until it is clearly indicated by the most obvious judgments. The second rule is: that we designate in a special way those immediate judgments concerning the object which have to do with that which we first comprehend in it with certainty; and, when we have made sure that one is not included in another, assume these in advance, as we do the axioms of geometry, as the basis for all our conclusions. It follows from this, that we should, in our metaphysical speculations, always

designate in a special way that which we know with certainty, though that be little. However, we may also make attempts from the starting point of uncertain knowledge, in order to determine if they might not lead to clews of certain knowledge, provided we do not confuse the latter with the former. I do not indicate the other guiding principles which this method has in common with every other rational method, but hasten merely to make the method clear by means of examples.

The true method of metaphysics is fundamentally one with the method which Newton introduced into natural science and which yielded such useful results there. We must determine, so this method requires, by sure experiences (and with the constant help of geometry) those principles according to which certain natural phenomena occur. For, even though we may not find the primary cause of these phenomena in objects, it is nevertheless certain that they act according to the laws determined; and we have already explained the complexity of natural events when we show clearly that they come under well-demonstrated principles. So also in metaphysics: we must determine by sure inner experience, that is, by an immediate and clear awareness, those elements which are implied in the conception of any general property, and, although we may not at once comprehend all that belongs to it, we can still make a valid use of our knowledge as a basis for many inferences.

Example

of the only sure method whereby metaphysics can know the nature of

objects.

For the sake of brevity I shall restrict myself to a single example which is mentioned in a few words at the end of the second paragraph in Part One, to establish here for the first time the proposition that every object must consist of simple substances. Without determining what an object is, I nevertheless know for a certainty that it consists of parts which would exist, even if they were not combined; and, if the concept of a substance is an abstracted concept, it is beyond doubt a concept abstracted from the corporeal things of the world. But it is not even necessary to call the parts substances. It suffices that, from this immediate knowledge, we are able to conclude with the greatest certainty that an object consists of simple parts, only by implied definition, as in mathematics the obvious analysis of which is easy but too extensive to be given here.

Now I can show by reliable proofs from geometry that space does not consist of simple parts. The arguments for this are sufficiently well known. According to these, there is in every object a definite number of parts which are simple, and a like number of parts to the space it occupies, which constitute a unity. From this it follows that every simple element of the body or object occupies space. Should I ask now: What does it mean to occupy space? I should, without bothering about the nature of space, become aware that, if a space can be penetrated by everything, without there being anything present to resist, we could just as well say in every case

that there is something in this space, but never that this space is occupied by something. I know that a space is occupied by something, when there is something there which resists a moving body in its attempt to penetrate it, and this resistance is impenetrability. Hence bodies occupy space through impenetrability. Impenetrability, however, is a force, for it exerts resistance, that is, force opposed to an external force; and a force ascribable to a body, must be ascribed to its simple elements. According to this, the elements of a body or object fill their space through the property of impenetrability. But I ask further whether the primary elements are not therefore extended because each element in the body fills a space? Here for once I can adduce an explanation which has immediate certainty, namely: that is extended, which, taken by itself, (absolutely) fills space, just as every single body would occupy space, even if I should suppose there were nothing else beside. On the other hand, if I should take up an absolutely simple element, it could not possibly, taken by itself (not in combination with others), contain much that is mutually external, or, in and of itself, occupy space. Hence it cannot be extended. However, inasmuch as a force of impenetrability, exerted against many external things, is the cause of the elements occupying space, I see that from this there follows a manifoldness in its external action, but not with respect to its internal parts, and likewise that it is not on that account extended because it occupies space (in nexu cum aliis).

I wish to say a little more on this point, to make clear

how superficial the proofs of the metaphysicians are, when, as is their custom, they confidently draw conclusions from assumptions they have once taken as a basis, conclusions which go by the board as soon as the definition proves false. It is known that most Newtonians go further than Newton, and maintain that bodies attract each other directly even at a distance (or, as they call it, through empty space). I shall waive the correctness of this proposition for which there is certainly a good deal of foundation. But I maintain that metaphysics by no means has refuted it. To begin with, bodies are at a distance when they do not touch each other. This is the exact meaning of the phrase. Now, if I ask: "What do I mean by 'touch'?", without bothering about a definition, I become aware that I judge in every instance from the resistance of the impenetrability of a body, that I am touching it. For I find that this conception originates in the feeling just as through the judgment of my eyes I only suppose that one object will touch the other, but I do not know it for a certainty, except through the perceived resistance of impenetrability. Thus, when I say: a body affects another directly at a distance, that is equivalent to saying that it affects it directly but not through impenetrability. We cannot, however, see from this why that is impossible, unless someone should show either that impenetrability is the only property of a body or that it could not exert a direct influence upon another, except jointly through the aid of impenetrability. Since this has never been proved, however, and judging by appearances, can scarcely be proved, metaphysics at

least has no valid ground for protesting against direct attraction at a distance. Meanwhile let the proofs of metaphysics be brought forth. First of all appears the definition: The immediate mutual presence of two bodies constitutes "touching". From this it follows that, if two bodies affect each other directly, they touch each other. Things which touch each other are not a distance (from each other). So also two bodies never affect each other directly at a distance etc. The definition is fraudulently obtained. Not every immediate presence is 'touching', but only that which is due to impenetrability, and all the rest is preached to the winds.

I continue with my thesis. It is clear from the example cited that we can know much with certainty concerning an object in metaphysics as well as in other sciences without having explained the object. For here we have explained neither what an object is nor what space is, and yet we have trustworthy propositions concerning both. The most important point I have to make is this, that in metaphysics we must by all means proceed analytically, for its task is indeed to clear up confused concepts. If we compare with this the practice of the philosophers current in all schools, how perverted it is! The most abstract concepts which the understanding naturally falls back upon in the end constitute for them the starting point, because they have in mind the method of the mathematician, which they wish at all hazards to imitate. Consequently we find a striking difference between metaphysics and every other science. In geometry and other sciences of the doctrine of quantity, we begin with the easier and

proceed gradually, step by step, to the more difficult exercises. In metaphysics a beginning is made, with the most difficult, with possibility and being, as such, with necessity, the accidental, etc.--- all being concepts which require a great power of abstraction and attention, especially since their symbols in practice suffer many imperceptible variations, the differences between which cannot be left out of consideration. We are urged to proceed, at all cost, synthetically. Consequently, we lay down definitions at the outset and from these confidently make inferences. The philosophers who affect this manner, congratulate each other upon having learned the secret of sound thinking from the mathematician, without even realizing that the mathematicians arrive at concepts through synthesis whereas the philosophers can do so only through analysis, and that this difference completely alters the method of thinking.

As soon, on the other hand, as the philosophers launch out on the natural road of sound sense and first of all investigate that which they know with certainty concerning the abstract concept of an object (e.g. of space or time), without laying further claim to explanations; if they will draw conclusions only from these sure data, if they will exercise due caution at each variation in the use of the concept, to determine whether the concept itself is not changed, whether its symbol be the same or not; then they will not have so many to put upon the market, but those which they do offer will have a value beyond question. On this latter point I wish to adduce one more example. Most of the philosophers bring forward as examples of

obscure ideas those which we may have in deep sleep. Obscure ideas are those of which we are not conscious. Now a number of experiences show that in deep sleep we also have ideas and since we are not conscious of these, they must have been obscure. Here "consciousness has a two-fold meaning. We are either not conscious that we have a representation or that we have had one. The former indicates the obscurity of the representation, as it is in the mind; the latter indicates nothing further than that we are not able to recall it. So the instance given enables us to know only that there can be representations which we do not recall when we awake; from which it does not follow, however, that there cannot have been a clear consciousness in sleep, as in M. Sauvage's example of the person with a cataract, or in the usual behavior of somnambulists. Meanwhile by drawing hasty conclusions without having taken care in each instance to base the meaning of the concept upon the observation of various cases, we pass over carelessly, in this instance, what is probably a great secret of Nature, namely, that perhaps in the deepest sleep the greatest skill of the mind in rational thinking may be exercised; for we have no evidence to the contrary, except that we do not recall this upon awaking, and this proves nothing.

We are still far from the time when we can proceed synthetically in metaphysics; only when analysis shall have helped us to clear and completely understood concepts, shall we by synthesis be able to subsume the complex concepts under the simplest ones as in mathematics.

PART THREE

Concerning the Nature of Metaphysical Certainty

Section I

Philosophical certainty is in any case of a different kind than mathematical certainty.

We are certain, in so far as we know, that a concept cannot be false. The degree of this certainty, considered objectively, depends upon the adequacy of the indications of the necessity of a truth. Considered subjectively, it is the greater as the knowledge of this necessity has greater concreteness. From both points of view, the certainty of mathematics is of a different sort than that of philosophy. I shall make this as obvious as possible.

Human understanding, like every other force in nature, is subject to certain rules. We do not err, because the understanding does not combine concepts according to rule, but because we deny the presence of a characteristic which we do not see in it, and conclude that that of which we are not conscious in a thing, does not exist. Now mathematics, in the first place, arrives at its concepts synthetically and can safely say, without fear of challenge, that whatever it does not wish to represent in the object by definition, is not contained in it. For the concept of the thing defined originates with the definition and has no other significance than that which the definition gives it. Compared with this, the definitions of philosophy and especially metaphysics, should it care to venture any, are far less certain. For here we are given the concept of that which is to be ex-

plained. If now we fail to discover one or another determining characteristic, which is certainly necessary to adequate differentiation, and conclude that none is lacking in the completed concept, then the definition becomes false and misleading. We could furnish countless examples of such errors, but for an example of this I restrict myself to the one on "touching" given above. Secondly mathematics in its deductions and proofs always deals with its general concepts, in the concrete, in the form of symbols; philosophy, on the other hand, still deals with its concepts in the abstract side by side with their symbols. This makes a perceptible difference in the manner by which the two arrive at certainty. For, since the symbols of mathematics are a concrete means to knowledge, we can know, with the same confidence with which we are assured of that which we see, that we have left no concept out of consideration, that every single comparison has been made according to easy rules, etc. In this way the strain on our attention is lessened, so that we need not consider things in the form of a universal conception but in the form of symbols with their individual meanings empirically presented. In contrast to this, the words which are the symbols of philosophical knowledge help us in nothing except the remembrance of the general concepts which they symbolize. We must always have their meaning immediately before our eyes. The pure understanding must be kept under strain; and how imperceptibly a differentiating characteristic of an abstracted concept makes its escape, since nothing concrete can reveal its loss! Immediately, then, things which differ are taken for one and the same and we gather mis-

leading knowledge.

We have shown here that the grounds for inferring that it is impossible to have made a mistake in a certain philosophical deduction can never, by themselves, be the same as those which we have in mathematical reasoning. What is more, the obviousness of this knowledge, as far as it concerns correctness, is greater in mathematics than in philosophy. For in the former the object is always dealt with by means of concrete symbols, while in the latter it is dealt with only by means of general, abstracted concepts, the impression of which is not so clear by far as that of the former. In geometry, where the symbols have in addition a similarity to the things symbolized, the evidence is for this reason even greater, although in reckoning with literal symbols certainty is equally assured.

Section II

Metaphysics is capable of a certainty sufficient for conviction.

The certainty of metaphysics is of the same sort as that of all other philosophical disciplines, which disciplines in turn can be certain only in so far as they are in keeping with the general assumptions which metaphysics lays down. It is known from experience that, even outside the field of mathematics, we can in many cases on purely rational grounds become so completely certain as to reach conviction. Metaphysics is only a philosophy applied to the more general rational insights, and it cannot possibly be anything else.

Errors arise not only because we do not know certain things,

but because we undertake to make judgments, even though we do not know all that we need to in order to do this. A large number of errors, indeed nearly all, owe their origin to this rashness. You know several predicates apply to a thing with certainty. Very well, make these the basis of your inferences and you will not err. However, you insist upon a definition; at the same time you are not sure that you know all that you need to to make one; and, since you venture one notwithstanding, you fall into errors. Hence it is possible to escape the errors, if you will seek certain and clear knowledge, without presuming rashly to produce a definition. Furthermore, you can draw with assurance upon a considerable portion of a certain inference. Whatever you do, do not permit yourself to draw upon the whole inference, however minute the difference may seem to be. I grant that the proof we have to show that the soul is not material is sound. Be careful not to conclude from this, however, that the soul is not of a material nature; for by this everyone means not only that the soul is not a substance, but also that it is not such a simple substance as could be an element of matter. This requires a further proof, namely, that this thinking entity is not like a corporeal element in space, which by virtue of its impenetrability, could, in combination with other elements, constitute an extended something or a lump. For this, no proof has yet been given, which, if found, would indicate the incomprehensible manner in which a spirit is present in space.

Section III

The certainty of the fundamental truths of metaphysics does

not differ in kind from that of all rational disciplines other than mathematics.

In our days the philosophy of Crusius* has essayed to give metaphysical knowledge an entirely different character by not reserving for the principle of contradiction the privilege of being the most fundamental principle of all knowledge, by introducing many other primary postulates which are undemonstrable but of which we are immediately certain, and by maintaining that their validity would be determined by the nature of our understanding according to the rule: What I cannot think of as otherwise than true, is true. Among such postulates are reckoned among others: what I cannot think of as existing, that has not existed; everything must be somewhere and sometime, and the like. I shall, in a few words, indicate the true nature of the first principles of metaphysics, likewise the real merit of this method of Crusius, which does not deviate from the method of procedure in philosophy in this respect, as much as one might think. We shall likewise, at all odds, be able to determine from this the degree of the possible certainty of metsphysics.

All real judgments must be affirmative or negative. Since the form of every affirmation consists in the representation of something as a determining characteristic of a thing, that is, as being of the

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*I have found it necessary to mention here the method of this new philosophy. It has in a short time become so well-known, and it has also, from the standpoint of a better illumination, of many ideas, done so apt a service, that it would be a serious oversight to pass over it in silence in an essay which is at all concerned with metaphysics. What I here touch upon is only the method peculiar to this philosophy, for in details there is not yet a sufficiently vital difference to distinguish it from others.

same nature as the determining characteristic; it follows that every affirmative judgment is true in which the predicate is identical with the subject. And since the form of every negation consists in representing something as contradicting a thing, it follows that every negative judgment is true in which the predicate is at variance with the subject. The principle, therefore, which expresses the nature of every affirmation and likewise contains the basic pattern of all affirmative judgments is this: every subject has a predicate which is identical with it. This is the principle of identity. And since the proposition which expresses the nature of all negation: no subject has a predicate which contradicts it, is the principle of contradiction, it follows that this is the basic pattern of all negative judgments. The two together constitute, on the formal side, the supreme first principles of all human reason. And most thinkers have erred in that they have given the principle of contradiction the first place among all truths, whereas it holds this place only among the truths of negation. However, every proposition is undemonstrable which is immediately deduced from one of these first principles, but cannot be conceived in any other say - specifically when the identity or contradiction is inherent in the concepts and cannot or may not be detected through analysis by means of a mediating mark of identification. All other propositions are demonstrable. "A body is divisible" is a demonstrable proposition; for we can show through analysis, and therefore directly through the identity of the subject and the predicate, that the body is a compound. But that which is a compound is divisible;

hence, a body is divisible. The mediating mark of identification here is "compound." Now in philosophy there are also many undemonstrable propositions, as has also been indicated above. These, to be sure, all come under the primary formal assumptions, but immediately so; and in so far as they contain also the grounds of other knowledge, they are the primary material assumptions of human reason. For example, "a body is a compound" is a demonstrable proposition; in so far as the predicate can be thought as an immediate and primary distinguishing characteristic in the conception of the body. Such primary material assumptions, as Crusius rightly says, constitute the foundation and the dependability of human reason. For, as we have brought out above, they furnish the material for definitions and the data from which conclusions can safely be drawn, even when we have no definitions.

Crusius is right, therefore, when he takes other schools of philosophy to task for disregarding these material assumptions and addressing themselves solely to the formal principles of knowledge. For by these alone nothing can be proved; because proof would require premises containing the middle term whereby the logical relationship of other terms is to be brought out in a rational conclusion, and among these premises some must be primary. However, we can never ascribe to some premises the importance of primary material assumptions, if they are not obvious to every human understanding. I contend that some of those which Crusius mentions occasion serious doubt.

But, as far as we are concerned with the basic criterion of certainty which this celebrated man contemplates prescribing for all

knowledge, including metaphysical knowledge, namely: what I cannot conceive of as otherwise than true, that is true, etc., it is easy to see that this principle can never be the criterion of truth for any field of knowledge. For when we admit that no other criterion of truth can be given, except this, that we cannot possibly escape considering a thing true, then we as much as say that no further criterion of truth can be given and that the knowledge is undemonstrable. Now there are, no doubt, a great many undemonstrable truths; but the feeling of conviction with reference to them is an avowal, not a proof, that they are true.

If this is so, metaphysics has no formal or material grounds of certainty which are different in character from those of mathematics. In both, that which is formal in the judgment follows according to the principles of identity and contradiction. In both, undemonstrable propositions constitute the basis of inferences. The only difference is that, whereas in mathematics the definitions are the undemonstrable primary assumptions of the things explained, in metaphysics various undemonstrable propositions must take the place of these definitions and provide the original data. These data can be equally valid, however, and offer either the material for definitions or the ground for safe inferences. Metaphysics is just as capable of the certainty necessary to conviction as mathematics. The certainty of mathematics is merely more easily attainable and partakes of a greater concreteness.

PART FOUR

Concerning the Clearness and Certainty Which the First Principles of Natural Theology and Morals Are Able to Furnish

Section I

The first principles of natural theology are capable of the highest possible philosophical evidence.

The easiest and clearest differentiation of a thing from all others is possible when the thing is the only possible one of its kind. The object of natural religion is the sole First Cause; its determinations will be such that it will not be easy to confuse them with the determinations of other things. The greatest conviction is possible, however, where it is absolutely necessary to ascribe these and no other predicates to a thing. For in the case of accidental determinations it is often difficult to detect the variable conditions of the predicates. Hence the Absolutely Necessary Being is an object of such a character that, as soon as we come upon the real clew to the concept of it, it promises even greater certainty than most philosophical knowledge. I can in this part of my task, do nothing more than consider the possible philosophical knowledge about God in general; for it would be far too big a task to test out all the doctrines of the philosophers on this subject which are actually at hand. The main concept at the disposal of the metaphysician in this connection is the absolutely necessary existence of a Being. In order to arrive at this, he might first ask whether it is possible that nothing at all exist. When he becomes a-

ware that under these circumstances no Being at all is given, likewise nothing to be thought, and that there is then no possibility, he needs only to examine the concept of the existence of that which must constitute the basis of all possibility. This thought will grow and establish definitely the concept of the Absolutely Necessary Being. However, without committing myself especially to this line of argument, as soon as the existence of the one and only most perfect and necessary being is known, the concepts of its remaining determinations will become much more precise, because these are always the greatest and most perfect and much more certain, because only those can be admitted which are necessary to it. For example, let us assume that I am to define the concept of divine omnipresence. I see readily that that Existence upon which all else depends, since it is itself independent, will by its presence determine the locus of all other existences in the world, but will not determine a locus for itself among them; as it would then belong to the world. God then is in reality not present in any particular place, but he is present to all things in all places where things are. I likewise understand that, although the things of the world in temporal sequence are under his sway, he does not on that account define for himself a temporal locus in the sequence; with the result that from his viewpoint nothing is either past or future. Therefore, when I say: God sees the future in advance, I am not saying: God sees that which from his standpoint is future, but rather: God sees that which is future to certain things of the world; i.e. that which follows from a condition of the things. From this we may know that knowledge

of the future, of the past, and of the present, from the standpoint of the activity of the divine understanding, is all the same and that he sees them all in their aspect as real things of the universe; and we can imagine prescience more distinctly and clearly as belonging to God than to a thing which belongs to the totality of the world.

In all cases, therefore, where we do not encounter something analogous to the accidental, the metaphysical knowledge of God can be very certain. However, judgment as to his freedom of action, his providence and the exercise of his justice and mercy, can in this science have only approximate or moral certainty, because of the fact that even in the notions we have of these determinations, in so far as they apply to us, there is much that has not yet been developed.

Section II

The first principles of morals are, in their present state, not yet able to furnish all the required evidence.

In order to make this clear, I shall merely show how little even the primary concept of moral obligation is understood, and how far we must be, therefore, from furnishing in practical philosophy that clearness and certainty of the fundamental concepts and postulates which is necessary to constitute them evidence. We say we <u>ought</u> to do this or that and leave the other undone; this is the form in which every obligation is expressed. Now each "ought" points to a necessity of the action and is capable of a two-fold interpretation. I <u>ought</u>, for example, to do something (as a means) when I want something else (as an end),

or I ought directly to do something else (as an end) and actually do it. The former we might call the necessity of the means (necessitatem problematicam), the latter the necessity of the end (necessitatem legalem). The former type of necessity indicates no obligation whatever, but merely gives directions for the solution of a problem, as to what means I must employ, if I am to attain a certain end. Whoever prescribes for another the behavior he must or must not practice, if he wishes to promote his own happiness, could in all probability bring all the principles of morality under this first type of necessity, but they would then no longer be obligations, except perhaps, in the sense that I am obliged to describe two arcs, if I wish to divide a straight line into two equal parts; i.e. they are not moral obligations at all, but merely directions for following a skilled line of conduct, if I wish to attain a certain end. Now, since the use of means has no other obligation about it, except that which pertains to the end, all forms or behavior which morality prescribes under the conditions of the attainment of a certain end are accidental and cannot be called obligations, since they cannot be classified as ends in and of themselves necessary. I ought to promote, for example, the highest perfection in the aggregate, or, I ought to act in accordance with the will of God; under whichever of these two principles the whole of practical philosophy might be considered, the principle, to be a rule and ground of obligation, must require the action as inherently necessary and not as coming under the conditions for the attainment of a certain end. And here we find that such an inherently authoritative first principle of

all obligation must be utterly undemonstrable; for it is impossible to know or determine from reflection on a thing or concept, whatever it may be, what we ought to do, if that which is assumed at the outset, is not an end but a means to an end. But this it must not be, because it would then not be a form of obligation but of problematical skill.

And now I can easily show how, after meditating for a long time over this subject, I have become convinced that the rule, "Do the best that is possible for you," is the primary formal ground of obligation by which to govern conduct just as the rule, "Leave that undone by which the highest perfection possible through you is hindered" is the primary formal ground of obligation, from the standpoint of the duty to avoid certain conduct. And, just as nothing follows from the abstract first principles upon which our criteria of truth are based, unless concrete postulates have also been given, so from these two principles of the good, no specific obligations can be derived, unless undemonstrable material first principles are given.

We have not until our time begun to see that the ability to cognize the true is knowledge, while the ability to sense the good is feeling, and that the two must under no consideration be confused. Just as there are primary concepts of the true, that is, of that which is met with in the objects of knowledge taken as such, so also there is a primary feeling for the good. (This is never met with in an object as such, but always in its relation to a sentient being.) It is a task of the understanding to analyze the complex and confused con-

cept of the good and to make it clear, showing at the same time how it arises out of the simpler feelings for the good. Still, when this is finally done, the judgment, "This is good", is utterly undemonstrable and is a direct effect of the consciousness of the feeling of pleasure associated with the representation of the object. And since there are certainly many simple feelings of the good to be found in us, so there are also many simple concepts corresponding to these. Accordingly, when an act is sensed as intrinsically good and does not covertly include a certain other good, which is discoverable through analysis and on account of which the act is said to be good, the necessity of this action is an undemonstrable material assumption of obligation. For example "Love him who loves you" is a practical principle, which to be sure comes under the primary formal and positive principles of obligation, but directly so, as a particular. For, since it can not be further shown through analysis, why a special perfection will result from mutual love, this principle is not established empirically but is subsumed directly under the general rules of good behavior. Perhaps the example I have given is not sufficiently clear and convincing. However, the limits of a treatise like the present one, limits which I have perhaps already exceeded, do not permit me to be as complete as I might well wish to be. There is an intrinsic repugnance about an act which opposes the will of Him from Whom our being and all good comes. This repugnance is clear, even though we may not consider the disadvantages which might accompany such conduct as a consequence. So the principle "Do that which is in accordance with the

will of God", becomes a material assumption of morals, which falls directly under the primary, general formula already mentioned. In practical as well as in theoretical philosophy, we must not be too prone to consider something undemonstrable which is not undemonstrable. Likewise we may not dispense with those fundamental principles which as postulates constitute the basis for the remaining rules of conduct. Hutcheson and others, under the name of "moral sense" have made a beginning at some fine observations on this point.

From this we can see that, although it must be possible to attain the highest degree of philosophical evidence for the first principles of morality, the exceedingly important primary assumptions of obligation must first of all be more definitely determined. From this standpoint the inadequacy of practical philosophy is even greater than that of speculative philosophy, since the former has first of all to determine whether the knowing faculty or feeling (the primary inner ground of the faculty of desire) determines its primary assumptions.

POSTSCRIPT

These are the reflections which I submit to the judgment of the Royal Academy of Sciences. I venture to hope that the arguments which have been presented for the required illumination of the subject will be of some significance. As for carefulness, completeness and nicety of execution, I have preferred to be wanting in these respects rather than to be prevented from submitting it for examination at the proper time, especially since these wants can easily be supplied in case the essay is favorably received.

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1. Lese Hilbert zur Zeit's Argument, eigentlich von Zeit's Meinung. Klassiker in Fr., Verlag wie Zeit. Meyer's Zeitschrift (C. Jugendbuch, C. Druck.) 1908.
2. They are not arranged in any particular order, but printed in the order found.

APPENDIX

In 1889, Rudolf Reicke published for the first time a series of papers from Kant's Nachlass which in 1878 had been offered for sale at a Bazaar in Danzig. The proceeds were to be turned over to a Rescue Home for orphan boys. However, as such a sale would result in the scattering of the manuscripts to all parts of the country, Dr. Wilhelm Mannhardt, a noted Germanist, begged that he be allowed to examine them before they were sold, and that they be offered to the University Library at Konigsberg. Mannhardt's appeal was granted and eight of the eighteen papers were retained by the Library. Reicke published the entire lot in two volumes under the title "Lose Blätter aus Kant's Nachlass".[1]

In his introductory remarks, Reicke says that Number 5 of the papers as they appear in his "Lose Blätter"[2] is probably the earliest, and that it is probably a preliminary note on the question put by the Berlin Academy for the prize of 1763.

While no single part of this paper has been embodied verbatim in the final essay on Natural Theology and Morals, there is ample ground for Reicke's supposition that it was called forth by the Academy's question: "Are the Metaphysical Sciences capable of the same evidence as the mathematical Sciences?" Aside from the fact that the general theme of it is that of certainty and uncertainty, there is

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1. Lose Blätter aus Kant's Nachlass", mitgetheilt von Rudolf Reicke. Konigsberg in Pr., Verlag von Ferd. Beyer's Buchhandlung. (C. Oppermann, C. Thomas.) 1889.
2. They are not arranged in any particular order, but printed in the order found.

a specific passage which quite definitely points to the answer which Kant finally submitted in answer to the Academy's question:

> "Certainty must be possible in philosophical as well as in mathematical knowledge, and so far as the degree of certainty is concerned, it must at least be adequate to convince. We cannot say that one certainty is greater than another. Nothing is ever more certain than that which is certain. So far as degree enters, in, it concerns not certainty but clarity."[1]

The Lose Blätter were the original possession, according to Mannhardt, of Dr. Med. v. Duisburg. He had been one of Kant's faithful listeners and ardent admirers at Königsberg. Reicke has published the papers precisely as they were found, with little or no punctuation and with an orthography which is Kant's own. Particularly the lack of punctuation and the fact that the jottings were made carelessly and in a sort of haphazard way makes an intelligible interpretation difficult in places, if not impossible. An attempted translation of the paper follows.

(Translation)

Preparation

Concerning the Certainty and Uncertainty

of Knowledge in General

Uncertainty is either an uncertainty of things or of knowledge. Although the objects of knowledge are, without doubt, in themselves just what they are, we may still ascribe uncertainty to them, in so far as we can conclude nothing from that which we know about them concerning the rest which we seek to know; and this uncertainty remains, however well we may comprehend the data given. If we have given a compound of three different metals, the specific gravity of which is given, and, if in addition we have given also the weight of the whole mass and its hydrostatic relation to water, we may know these data ever so well, yet we shall always be uncertain as to the relationship in which they are compounded with each other, just because the known facts are such that they leave this relationship undetermined. This sort of uncertainty is bound to be met with in the knowing of all knowledge that is limited. Much of the knowledge of one who does not know all, must by its very nature remain undefined, no matter how many comparisons with it are made.

On the other hand, in so far as we realize that, among certain data which we know, there are other elements which are not determined; in so far no error can find place in our knowledge and our knowledge is therefore not uncertain. When the apparent diameter of

a star is known, but the distance is unknown, the true magnitude of the star remains uncertain, although no error can result from this uncertainty. Likewise when during observation the angle is once known, so that an error of two seconds could not be perceived, then all that depends more or less upon the magnitude is left undetermined by the observation, and, if we recognize this fact, no error can result.

Since the uncertainty inheres in the possibility of erring, that is, the possibility of making a false judgment, all grounds for this possibility become either positive or negative. They inhere, namely, either in the fact that the bases for a certain and true judgment are wanting, or that there are positive bases for judgments, which judgments, however, are not in keeping with the properties of things. The first mentioned ground of uncertainty is, taken by itself, not sufficient to enable us to understand the possibility of error. For it does not follow that, because I do not know certain things, I might make a false judgment; because, assuming that I realize I must know these things in order to make a judgment, upon finding that I do not know them, I should not want to judge and I should thus be protected against all error. An astronomer who knows the apparent diameter but not the parallax of a comet, is objectively uncertain as to how far away or how large the comet is, but it is impossible that he should err at this point as long as he is aware that he is not in a position to make a judgment. Not even ignorance of certain given factors is of itself a ground of the possibility of error, in case the

person is not at all conscious of this (lack of definition); for, as long as there is no cause inciting him to judge in a matter about which he does not know enough to judge, he is guarded against making any judgments. Hence the common man is protected against many errors. For, since he is not concerned about most of the things that scholars are much concerned about, even when he hears the questions that are raised; and since most of the questions never enter his mind at all, there is nothing to prompt him to judge. From this we see that uncertainty in the subjective sense presupposes a certain ground for making judgments. Then there is also uncertainty in the objective sense, of which, however, we are not ourselves conscious.[1]

From all this it follows that whatever the impulse to judge, when there is a consciousness of objective uncertainty, error is impossible, as may be seen in the case of geometry. However great the desire to judge or the habit of judging is, we[2] have brought out objective uncertainty in so far as it can be considered in conjunction with the inner (subjective) grounds for judging, only to make the subjective possibility of erring comprehensible.

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1. "Wenn hiezu die ungewisheit im Objektiven Vestande, deren man sich aber nicht bewusst ist, hinzukömst." There is no main clause. Hence the passage as it stands is not intelligible. (Reicke, Op. cit., p. 7.)

2. "Je grösser die Begierde zu mitheilen oder die Gewohnheit zu mitheilen ist Wir haben . . ." The "Je" clause seems to represent an unfinished sentence, especially since the manuscript has the word "wir" capitalized. There is no punctuation in the original. (Reicke, Op. cit., p. 7.)

However, if this desire does not matter, then the grounds for distinction between the true and the false are either concealed and small by comparison with the points of agreement between true and false knowledge, or they are not so. (Since we are arguing from analogy, very many points of agreement might be the cause of errors; e.g., the reason of animals.) In case we have many but not all the ground of distinction, error is possible only through ignorance of the indefiniteness of knowledge from these causes and through the pre-disposition to judge.

Certainty must be possible in philosophical as well as in mathematical knowledge, and so far as the degree of certainty is concerned, it must at least be adequate to convince. We cannot say that one certainty is greater than another. Nothing is ever more certain than that which is certain. So far as degree enters in, it concerns not certainty but clarity.

(Later addition)

All uncertainty is a possibility of erring. To err is to make a false judgment. The possibility of erring results from either a potential or actual condition. By potential condition is meant that we might err, if we should presume to judge; by an actual condition, that for very real reasons there is a conditioned possibility of judging, and likewise a chance of erring. The potential possibility of erring depends upon the nature of things, since we cannot determine from that which we know about them what belongs and what does not belong to them. The actual condition of uncertainty is the ground for

judging where there certainly lies a potential uncertainty. This ground for judging lies in the apparent similarity between the procedure in the case of false knowledge and that of true knowledge. Or, in the first place, where I do not notice that any of the characteristic attributes of a thing have been forgotten, there nothing is forgotten. In the second place, things which are similar in certain respects are similar in others. And thirdly, what pertains to many, pertains to all.

To be designated in this way, since the designations of similar things are looked upon as similar.

The uncertainty of that which has several possible causes, conditions the object.

(At the bottom of the first page, Kant, apparently at different times, made the following observations:)

Proposition of immediate certainty: many, thinking, cannot produce a single thought.

There can be a proposition of immediate certainty only when the subject cannot be thought without the predicate, not when it appears that we cannot deny it.

Concerning philosophical meanings and hypotheses concerning detection of the causes of the uncertainty of a meaning

(Present) Judgments Propositions of immediate certainty

Uncertainty is of two kinds, either of the sort where we

before we make a concept clear, through which however we begin this.

do not find sufficient grounds for approval in the thing itself, or of the sort where, regardless of our conviction, we are concerned about erring through the expectation of similar instances.

In Calculating

Devices of mathematics for obtaining the median of many

Uncertainty is either a possibility of erring under the condition that we presume to make judgments where there are no data, or a conditioned possibility of judging in matters on which we have no data.